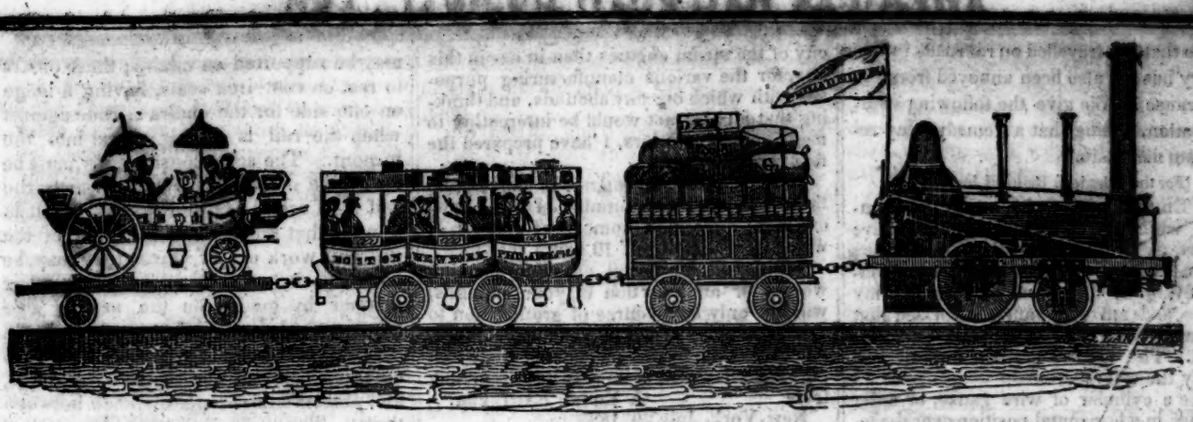

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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AMERICAN RAILROAD JOURNAL.

NEW-YORK, AUGUST 8, 1835.

Grand Junction Railway.—We have been favored with the perusal of a manuscript copy of a report of Joseph Locke, Esq., engineer of this important railroad in England, in relation to the *form of rail* to be used on that road, furnished by the President of that company to the President of the New-York and Erie Railroad Company. It is accompanied by two sheets of drawings, exhibiting in *full size* the different kinds and shapes of rails used on the Liverpool and Manchester Road, as well as several other kinds of rail now in use in England. It will soon, we are gratified to be able to say, be published in pamphlet form, when we shall take an early opportunity to re-publish it entire in the Journal.

Sawing Machine for felling Trees.—It is pleasing to know that ingenuity and enterprise are appreciated and rewarded. Mr. James Hamilton has, we understand, met with an unprecedented sale of the right to use and vend his machine for cutting down trees, having sold a large portion of the Union, in States. Those who desire to obtain the right for its use, should apply soon if they desire to have it at *first* prices. Mr. Hamilton resides at 157 Crosby street, New-York.

Died, at Columbia, Pa., on Thursday 30th ult., Wm. H. McCutchen, Engineer, upon the Pennsylvania Canal, aged 26 years.—[Philadelphia Commercial Herald.]

The [Work goes bravely on.—Books were opened in this city last week, and also in New-Haven and Hartford, Conn., to receive subscriptions to the stock of the New-Haven and Hartford Railroad. The importance of the route, and the favorable report of Mr. Twining, the engineer, caused an unusually large subscription. The amount required was $1,000,000, and the subscription amounted to over $5,700,000, or nearly *six times* what was required. At such a result we are not at all surprised. The enterprising and business character of the inhabitants of the country through which it passes, together with the certainty of its being continued to Springfield, and thence to Worcester, in Massachusetts, thus opening an easy communication with Boston; and the *almost*, as *others* believe, but as we believe, *positive*, certainty of its being extended far up the valley of the Connecticut, at least to Haverhill, in New-Hampshire, and most certainly to Burlington, Vermont, must make the road between Hartford and New-Haven one of the most productive railroads in the country. It cannot be otherwise.

The New-Jersey Railroad.—We are happy to see that this great work, so important to the interest of this City, is rapidly progressing. The contractors and men are engaged along the line from Rahway to this city. The road from Rahway to Newark is already graded, and only awaits the laying of rails to perfect it. We learn that it is the intention of the Directors to have it completed to New-Brunswick during this year. Our city will then be *in the vicinity of New-York*, with all the advantages of cheap living here and all the benefits of the New-York market. We hazard little in asserting, that, upon the completion of this road, enterprize and wealth will not find any place in New-Jersey, or in *the vicinity of New-York*, with superior advantages to New-Brunswick for their profitable exercise and investment. We also learn that the travelling over the road from Newark to New-York is immense, and that the proceeds of that part of the road will yield a handsome return for the capital required for the completion of the entire route to this city.—[Fredonian.]

[From the Newark N. J. Daily Advertiser.]

Morris and Essex Rail Road.—The Engineer, Judge Wright, having completed his surveys, has laid before the Directors his profiles, surveys, and estimates, which we understand are favorable to the prospects of the Company, and entirely satisfactory to the Roard.

Of the several routes surveyed, the two most practicable would each make the whole distance 23 miles, from Morristown to Newark, both passing through Springfield. Leaving Springfield, one of the two surveys named passes through Lyons Farms to the south end of Newark, and the other proceeds north through Orange. The situation of the hills on the route of the present turnpike from Springfield to Newark render that route, it is said, impracticable. On either of these routes the highest grade will not exceed an elevation of 70 feet per mile, for 3 miles on the eastern slope of the Short Hills: 60 feet is the maximum of the rest of the route.

The estimate of the whole cost of putting the road in perfect readiness for the cars is—

By the southern route,	$217,345
Orange, or northern route,	219,193

including a bridge over the Passaic, at Chatham, which is estimated to cost $20,000, all told. The cost of the road itself, without a bridge, would therefore be at the rate of 8000 per mile, single track with necessary turn-outs.

That the estimate is a liberal one, may be inferred from the fact that an offier has been made to the Directors of a contract for the whole road at the estimate, with ample security for its fulfilment. But it is believed that the actual cost will fall short of the estimate—the right of way being conceded by the land holders, as it probably would be.

Canal Breach at Port Byron.—We have been furnished with the following letter, from A. Burt, Esq., Canal Superintendent, to the Comptroller.—[Alb. Argus.]

"*Port Byron, Thursday, P. M., July* 30.

"Dear sir—A breach was made in the aqueduct at this place yesterday about noon. We are making great exertions, and hope to have it repaired so as to let in the water to-morrow morning. It will probably cost 300 or 350 dollars to repair it."

The Quebec Gazette, of July 25th, states that Captain Youle, of the Royal Engineers, arrived there on Saturday afternoon, from Montreal, having been ordered from Quebec by the Commander-in-Chief, in compliance with the Address of the committee of the citizens appointed to promote the construction of the Railway to Maine.

Dr. David M. Reese, of New York, has been appointed to the chair of Chemistry, &c., in the Washington Medical College of Baltimore.

Who that has travelled on railroads in this country has not also been annoyed from the same cause? We give the following communication, hoping that a remedy may result from discussion.

[For the American Railroad Journal.]

Mr. Editor,—I have been very much annoyed while travelling behind locomotive engines, (where wood, coal, or coke, has been used for fuel,) with the dust and cinders flying in my eyes, and soiling my clothes, and am very much surprized that no remedy has yet been attempted or suggested. The following plan I think will remedy the evil:

Place a cylinder of wire gauze, or other material, in a horizontal position over the locomotive, and similar ones over each of the cars. The one over the locomotive may have a wider mouth than the others. Those upon the cars may lie flat; the tops of the cars, forming the lower part of the cylinders, it may not be necessary that they should lap; and it is possible that they will answer when placed some inches apart. As the cinders are emitted from the chimney top, they will be immediately drawn within the cylinders, through which there will be a current of air sufficient to drive them to the rear of the train. The rush of air to fill the vacuum caused by the rapid passage of the cars, will have no effect upon the cinders passing through the cylinders.

Respectfully your obedient servant,

Thos. Symington.

N. B.—Letters patent will be taken out for the foregoing invention. T. S.

Baltimore, July 30, 1835.

The annexed inquiries are of great importance at this period; and we are very desirous that experienced practical engineers should give answers.

[For the American Railroad Journal.]

Mr. Minor,—Please, through the medium of your useful paper, put the following queries to engineers. The answers of practical men might elicit information on an important subject.

1. Would or would it not be better to lay the tracks of railroads wider apart, say six or seven feet?

2. Would it not be better to construct the wheels of railway cars much larger, say five, six, or seven feet in diameter?

3. Would not large wheels be less likely to break stone sills, and bend wooden ones?

4. In the use of large wheels and narrow railways, would it not be better to suspend a part of the burthen under the axle?

5. Could not a railway be constructed upon the undulating principle, as the ground will best suit, say with planes of 50 to 100 feet in the mile ascent and descent, and accompany the cars with a locomotive that should condense atmospheric air into a receiver in descending, which condensed air, used as steam, by reversing the motion of the engine, would assist the propelling power in ascending the next plane? Would not this idea, improved upon, lessen the necessity of such expensive graduation?

The full and explicit answers of engineers to any or all of the above queries, whether as objections or approvals, would gratify An Inquirer.

We are very much obliged to "A Young Engineer" for the following communication, and hope to hear again from him.

To the Editor of the Railroad Journal:

Sir,—Having been employed in November last to ascertain the number and capacity of the steam engines then in use in this city, for the various manufacturing purposes with which our city abounds, and thinking that an abstract would be interesting to many of your readers, I have prepared the following, namely:

Whole number of engines in daily operation, 76*; aggregate number of horse powers, 858; aggregate number of gallons of water used per day, of 10 hours, 60,385.

Which, in the event of your deeming worthy of an insertion in your columns, will not only be a source of gratification to me, in having added to your useful work, but will be the means of eliciting some further contributions, at no very distant period, from A Young Engineer.

New-York, July 20, 1835.

[From the American Journal of Science and Arts.]

On Turnouts in Railroads, with Flexible Moveable Rails. By Thos. Gorton, Civil Engineer.

At a time like this, when railroads are being rapidly introduced in various parts of the United States, it is believed that any improvement relating to the various parts of their construction will be acceptable to the public.

Up to the present time all turnouts upon railroads, (so far as the writer's knowledge extends,) have been constructed with stiff moveable rails. When these stiff rails are moved round so as to make a communication with the turnout and main line, a rectilinear angle of several degrees is formed by the stiff rail and main line, which subjects cars passing through the turnout to much jar and lateral friction. This friction is so great as to injure both cars and railroad. In a late conversation with Mr. E. Miller, superintendant of machinery on the Portage railroad, he informed me that they proposed using *flexible* moveable rails for their turnouts. The rail adopted on that road is the parallel edge rail, eighteen feet long, and weighing forty pounds per yard. I understood that the plan of their turnouts was not fully matured, but that it was contemplated to have about three feet of the rail made fast in two heavy chairs, and the other fifteen feet to be sprung into a curved form, when it was desired to pass into the crossing or turnout.

This at once appeared to me to be a decided improvement, in as much as turnouts might be made on this principle, so that cars might pass through them with the same facility as in the curved parts of the main line. In examining the subject, the first requisite is, that the rail at the moveable end should be deflected so as to leave a sufficient distance between the rail of the main line and the fixed part of the turnout. Then, secondly, let the radius of curvature for the turnout be determined; it will be seen that these two requisites determine the length of the moveable rails. These rails may then be laid down in the following manner.

Let about one foot of that part connected with the main line be made fast in a heavy cast iron chair, by a wedge, and by a bolt passing through the chair and rail. The moveable part of the rail may be supported on chairs; these chairs to rest on cast iron seats, having a ledge on one side for the chairs to slide against when the rail is sprung round into the turnout. The seats consequently must be laid down in the curve form which the rail is to assume in the turnout. If it is thought that the chairs on this part of the rail will work out of place, they may be bolted to it, or secured in some other manner by guides on the seats. The two moveable rails of a turnout should then be connected by two or three stiff coupling bars, to give them permanence, and preserve the proper distance between them. The rails may then be worked by a vertical lever of a suitable length. This lever, with a ball placed upon its top, will serve as an index to persons travelling the road, by pointing out the position of the moveable rails, that the cars may be stopped in time, if the rails are not right.

The result of some calculations for rails of different lengths will now be given, together with the length of a turnout for each kind of rail. These calculations are made for a double track of railroad, the distance between the rails of each track being 4.75 feet, and the distance between the inner rails, including the width of each rail, five feet. But as railroads in general do not differ much from this in outline, the length of a turnout will not be affected much by such difference.

The following table will be understood from the explanation given therein.

Radius of curvature in feet.	Length of movable rail not including that part in the heavy chair.	Deflection at end of rail in decimals of a foot.	Angle of crossing plates and sine of are at each end of turnout, in feet.		Feet of straight line in the centre of turnout.	Length of turnout in feet.
310.	15 ft.	0.36	7°	37.78	40	115
350.	16	0.36	7°	42.65	35	120
400.	17	0.36	7°	48.75	30	128
410.28	17	0.35	7°	50.00	29.3	129.6
450.	18	0.36	7°	54.84	23	133
500.	19	0.36	7°	60.93	17	139
550.	20	0.36	7°	67.03	11	145

In the above table, fractions of a foot have been omitted in the last two columns, the object being to give sufficient information in a tabular form, from which a comparison of the advantages and disadvantages may be made for turnouts with moveable rails of different lengths, and arcs of different radii. An angle of 7° has been adopted in this table for the crossing plate. Increasing this angle would shorten the turnout but little. It is hardly necessary to mention, that the plan of the turnout proposed here is that of an inverted curve, with a piece of straight line in the centre.

It is believed that a turnout of from 400 to 500 feet radius, with flexible moveable rails, will be found to answer a much better purpose than those in use at the present time. Several important railroads have curves as abrupt as this. On the Baltimore and Ohio railroad there are two sharp curves, one of 337, and the other of only 318 feet radius.

* From 8 to 12 have been erected since.

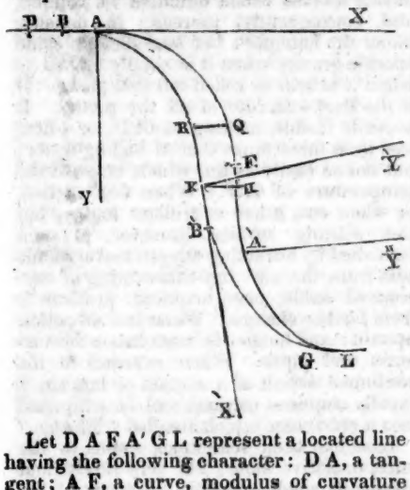
[For the American Railroad Journal.]

On the Location of Railroad Curvatures; being an Investigation of all the Principal Formulas which are required for Field Operations, in laying Curves and Tangent Lines, to pass through Given Points.

By J. S. Van De Graaff.

(Continued from number 24.)

27. The preceding articles, with their obvious combinations, embrace all the cases which can occur in the field, by a method of computation rigorously accurate, and of convenient application. But before closing this part of the subject, the following example will be here given, as a general illustration of the method to be pursued when an alteration is proposed in a line after the completion of a location.



Let D A F A′ G L represent a located line having the following character: D A, a tangent; A F, a curve, modulus of curvature 2° 3′, and length 18 chains; F A′, a tangent, length 9 chains; A′ G L, a curve, modulus of curvature of the part A′ G, 2° 52′, and length of the same part, 15 chains. Now, it is proposed to remove the origin A 4 chains *back* upon the tangent line D A, to a station B; and to lay a curve B R 15 chains, with the same modulus of curvature, 2° 3′; and it is required to know what would be the direct distance R Q between the two curves from the point R. And if a tangent R X′ be laid from the point R, it is also required to know the proper position in that tangent line, for the origin B′, and the necessary modulus of curvature, in order to trace a new curve B′ G in such a manner as to pass again into the original line G L with a common tangent at the station G.

Because B R = 15 chains, and B A = 4 chains, the difference is 11 chains, and the curve A Q will therefore obviously contain more than 11 chains when R Q is normal to the tangent R X′. Hence, taking the station Q at the extremity of 13 chains, the data for computing the line R Q by means of (XXV.), will be, T′ = 2° 3′, n = 13, m = 15, and $\propto = +4$; or, $2n\mathrm{T} = 53° 18'$, and $2m\mathrm{T} = 61° 30'$; and therefore $w = \left\{ \begin{matrix} \cdot 01022 \\ \cdot 00256 \end{matrix} \right\} - 4 \times \frac{\cdot 87882 - \cdot 80178}{\cdot 03577} + 16 \Big\}^{\frac{1}{2}} = (4 \cdot 00 - 4 \times 2 \cdot 153 + 16)^{\frac{1}{2}} = \sqrt{11 \cdot 388} = 3 \cdot 38$ chains nearly = R Q. And by (XXVI.), $\mathrm{Cos.\ P} = \frac{1.076 - 4}{3 \cdot 38} = -\cdot 8651$; that is, P = 210° 6′. Hence, the angle Q R X′ will evidently be expressed by $2m\mathrm{T} + 210° 6' - 180° = 91° 36'$; which being nearly a right angle, proves that 13 integer chains in the curve A Q, corresponds most nearly with a true normal line Q R. The length of the line Q R furnishes the data by which to judge of the situation of the ground at the point R.

The origin, and curvature of the new curve B′ G, will now be investigated by means of (XVII.) and (XVIII.) Let any arbitrary point K be selected for the origin of a system rectangular axes K X′, K Y′; and compute the values of the co-ordinates A′ H′, H′ K, of the origin K, taken with reference to the rectangular axes which have their origin at A′.

In such a case as the present, it would be most convenient to take the point K coinciding with the station R; but in order to retain the results given in a former example, take R K = 12 chains; and the values of the required co-ordinates will then be, A′ H′ = + 1·37 chains, and H′ K = + 1·58 chains.

The co-ordinates of the point G, taken with reference to the axes K X′, K Y′, may now be computed by means of (XXI.), after the co-ordinates of the same point, taken with reference to the axes at A′, have been determined by (VII.) To find these latter co-ordinates, the given data are, T = 2° 52′, and n = 15; or, $2n\mathrm{T} = 86°$. Hence, by (VII.), $x = \frac{\cdot 99756}{\cdot 10002} = 9 \cdot 98$ chains, $y = \frac{\cdot 93024}{\cdot 10002} = 9 \cdot 30$ chains. Now, the data necessary for computing the new co-ordinates by means of (XXI.), are, $\propto = +1 \cdot 37$, $\beta = +1 \cdot 58$, $z = +12° 18'$, $x = 9 \cdot 98$, and $y = 9 \cdot 3$. Hence, $x' = 10 \cdot 88 \times \cdot 2130 + 11 \cdot 35 \times \cdot 9770 = 2 \cdot 32 + 11 \cdot 09 = 13 \cdot 41$ chains, $y = 10 \cdot 88 \times \cdot 977 - 11 \cdot 35 \times \cdot 213 = 10 \cdot 63 - 2 \cdot 42 = 8 \cdot 21$ chains. The inclination of a tangent at G, to the tangent F A′, is expressed by 30 × 2° 52′ = 86°; and therefore the inclination of a tangent at G, to the tangent R X′, is expressed by 86° − 12° 18′ = 73° 42′. The given data by which to compute the position of the new origin B′ by means of (XVIII.), will therefore be X = 13·41, Y = 8·21, and D = 73° 42′; that is, $\propto = 8 \cdot 21 \times 1 \cdot 334 - 13 \cdot 41 = 10 \cdot 95 - 13 \cdot 41 = -2 \cdot 46$. The required origin B′, of the new curve B′ G, will therefore be situated 2·46 chains in *advance* of the selected point K; that is, the length of the new tangent R B′ is 14·46 chains. By (XVII.), Sin. T = $\frac{\cdot 71933}{16 \cdot 42} = \cdot 04381$; or, T = 2° 30¼′ = modulus of curvature of the required new curve B′ G.

SCHOLIUM.

When the curves under consideration are *long*, and also embrace portions of circumferences greatly exceeding 20° or 30°, the trigonometrical formulas investigated in the foregoing articles become of the utmost importance in the field. But there are several well known approximative formulas which will sometimes be found useful auxiliaries in the first location of a line where short and frequent curves are introduced; and they will also very often be convenient when certain alterations are proposed in a known line, and a new line is required to be selected by computation. It is therefore the design of the remaining part of the present inquiry to show how those approximative results may be easily deduced from the rigorous formulas already given.

28. By means of (VI.), we have $y = \frac{\mathrm{Sin.}^2 n\mathrm{T}}{\mathrm{Sin.\ T}}$; and therefore the quantity $n^2 \times$ Sin. T will always *exceed* the value of y. Hence, $n^2 \times$ Sin. T will express the value of some ordinate *oblique* to the axis of x.

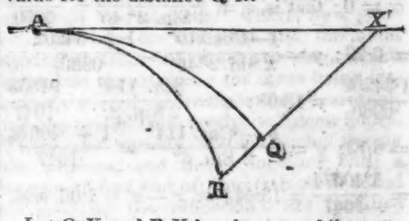
Let this *oblique ordinate* be denoted by K; and the following expression will obtain:

$$\mathrm{K} = n^2 \cdot \mathrm{Sin.\ T}. \qquad \text{(XXXVI.)}$$

But by putting $q = 0 \cdot 01745$, which is the length of an arc of one *degree*, to a radius unity, and supposing the angle T to be measured *in degrees, and decimal parts of a degree*, the result will be, that $q \times \mathrm{T} =$ Sin. T very nearly. The value of the oblique ordinate K will therefore be nearly expressed as follows:

$$\mathrm{K} = qn^2 \mathrm{T}. \qquad \text{(XXXVII.)}$$

29. Suppose T and T′ to denote the respective moduli of curvatures *in degrees* of two curves A Q and A R, which are laid from the same point A, and upon the same tangent line A X; and let each curve contain an equal number of chains represented by n. It is proposed to find an approximate value for the distance Q R.



Let Q X and R X be the two oblique ordinates whose values are expressed by $qn^2\mathrm{T}$, and $qn^2\mathrm{T}'$, respectively. If, then, those two ordinates be supposed to coincide with each other, which will not be far from the truth, then their difference in length must express the required distance Q R. Hence, taking w to represent the line Q R, the following formula is evidently the result:

$$w = qn^2 \cdot (\mathrm{T} - \mathrm{T}'). \qquad \text{(XXXVIII.)}$$

The formula thus obtained is an exceedingly near approximation of the true length of the line Q R, when the curves A Q and A R do not contain more than 20° or 30° each; but its application in the field is confined to that particular case only in which those two curves contain each the same number of chains. And although the length of the line w, as thus computed, will not differ so much from the true quantity as to produce a material inconvenience in the location of a line in a slightly undulating country, even when the two curves embrace portions of circumferences greatly exceeding 20° or 30°, yet, in such cases, if the result were even rigorously true, a knowledge of the *length* of the line w will be of little use in the field when the *obliquity* of that line remains unknown. The formulas (XXIII.) and (XXIV.) must, therefore, in such a case, be resorted to, in order to discover the true position of one of the curves when the other is given; but when those two curves each embrace only a small part of the whole circumference, it will be sufficient in practice to measure the line w as a normal to either curve, in which case the expression (XXXVIII.) will be highly useful.

It is sometimes required to find the modulus of curvature of one of the curves, when the other curve and the line w are given data; in which case the following formula obtains:

$$\mathrm{T}' = \mathrm{T} \pm \frac{w}{qn^2}. \qquad \text{(XXXIX.)}$$

This expression is immediately derived from a transposition of the one preceding.

Three examples will be now given, the first of which will be a case where the formula (XXXVIII.) is not at all applicable; the second will explain a case where that formula can not be used alone with advantage; and the third will show an instance in which the same formula will be very useful in the field.

Example 1. Let a curve whose modulus of curvature is 2° 45′, be traced 20 chains of 100 feet each, from a given point and from a given tangent line. Now it is proposed to lay another curve from the same

origin, and from the same tangent line, and whose modulus of curvature is 3°. How far would this latter curve pass from the extremity of the former?

Here, by (XXXVIII.), $w = \cdot01745 \times 400 \times \frac{1}{4}° = 1{\cdot}75$ chains $= 175$ feet $=$ the required distance as determined by the approximative method. But this result is too far from the truth to be of any practical utility, as will appear from the following accurate calculation. Taking the extremity of the 19th chain for the termination of the new curve, the given data in (XXIII.) are, $n = 20$, $m = 19$, $T = 2° 45'$, $T' = 3°$, and $\propto = 0$; that is, $x = \frac{\text{Sin. } 110°}{2 \text{ Sin. } 2° 45'} = \frac{\cdot93969}{\cdot0960} = 9{\cdot}79$; $y = \frac{1 - \text{Cos.} 110°}{2 \text{ Sin.} 2° 45'} = \frac{1 + \cdot34202}{\cdot0960} = \frac{1{\cdot}34202}{\cdot0960} = 13{\cdot}98$; $x' = \frac{\text{Sin. } 114°}{2 \text{ Sin. } 3°} = \frac{\cdot91355}{\cdot1047} = 8{\cdot}73$; $y' = \frac{1 - \text{Cos. } 114°}{2 \text{ Sin. } 3°} = \frac{1 + \cdot40674}{\cdot1047} = \frac{1{\cdot}40674}{\cdot1047} = 13{\cdot}44$; or, $x - x' = 1{\cdot}06$, and, $y - y' = 0{\cdot}54$. Hence, $w = (\overline{1.06}^2 + \overline{\cdot54}^2)^{\frac{1}{2}} = (1{\cdot}1236 + \cdot2916)^{\frac{1}{2}} = \sqrt{1{\cdot}415} = 1{\cdot}19$ chains $= 119$ feet $=$ true distance from the extremity of the given curve, to the station at the termination of the 19th chain in the proposed curve.

(To be continued.)

[For the Railroad Journal.]

PROBLEM.

To determine a grade, which will produce the same consumption of power, in a rectilinear railway, as is produced by a level curvilinear track of 800 feet radius, with a given degree of motion.

Solution.—Let V denote the velocity of the car in feet per second; R the radius of curvature in feet; W the weight of the car; m the distance in feet, through which a heavy body will fall in the first second of time near the earth's surface; G the required grade per mile in feet.

Agreeably to the laws of centripetal forces, $\frac{V^2}{2mR} \times W =$ the centrifugal force of the car; and which expression will consequently exhibit the lateral pressure on the side of the rail very nearly. Hence, agreeably to the laws of friction, $\frac{V^2}{8mR} \times W =$ that part of the moving power which is consumed in consequence of centrifugal force.

From the science of mechanics we therefore have, $5280 : G :: W : \frac{V^2}{8mR} \times W$, and consequently, $G = 660 \times \frac{V^2}{mR} = 41 \times V^2 R$ nearly.

From the above formula it is easy to compute the following table, exhibiting the grades which are equivalent to a curve of 800 feet radius, with different degrees of motion.

Radius of curvature in feet.	Velocity of the car in miles per hour.	Corresponding grade in feet.
800	2	0.440
800	4	1.760
800	8	7.040
800	12	15.840
800	20	44.000

[From the N. Y. Mechanics' Magazine.]

MR. BURDEN'S SPIKES. — The public has already had the means of knowing that the above named enterprizing individual invented, some years since, a machine for making spikes of wrought iron, chiefly for the purposes of being used in constructing ships and railroads; but their value, compared with other spikes, seems to be but very sparingly known. These spikes, to any competent judge, will show themselves to be far superior to any spikes ever manufactured, or which can be manufactured for the above purposes, for the following reasons. The iron being selected by Mr. B. himself, and in large quantities of the first quality, no other being used, its uniform excellence must infinitely surpass that of common spikes, which are made of such small lots of iron as come to hand promiscuously; the body of these spikes being of exactly even and uniform size, and without hammer strokes, when once entered they have no tendency to split the wood, and, having a square chisel shaped edge, they cut their passage instead of forcing it.

But Mr. B. is emphatically an experimentalist, and he wished to test the comparative value of his spikes by some precise data. He wished to ascertain first with what degree of safety his spikes might be driven into wood without splitting; second, what was the tenacity of the iron; and third, what power it would require to draw them out.

To test the first point, he took a piece of seasoned white oak joist, 3 by 6 inches, and sawing off 3 inches, produced, of course, a piece 3 inches square and 6 inches long, but with the grain running crosswise. In one end of this block, he entered, without boring, the point of a spike 5 inches long, with the edge of its point across the grain, and drove in the whole length without splitting the block.

To ascertain the second and third points, he drove another and similar spike into a similar block, leaving its head a little distance out, and securing the block in a firm situation, and griping the head by a strong instrument similar to a pair of wire tongs, he suspended to the tongs 100 56-pound weights, equal to 5600 pounds, and these neither breaking the spike nor drawing it out, he took a sledge and struck forcibly upon the apparatus attached to the head of the spike, when it drew out and left the spike and the wood unbroken.

These experiments were made at the store of Messrs. I. & J. Townsend, in this city, in presence of the President and Directors of the Albany and Schenectady Railroad Company, and if they do not remove all doubts as to the superiority of these spikes for ships and railroads, I know not what would. S. B.

Albany, June 15, 1835.

ARITHMETIC BY MACHINERY.—A cabinet-maker of Milan has invented a machine with cylinders, which executes any sum in the first three rules of Arithmetic, for which the Institute of Milan has awarded him a gold medal.

[From the London Penny Magazine.]

Lead. — The appearance of this substance in its metallic state is undoubtedly familiar to every one. It is one of the most useful of mineral substances, and forms one of the most valuable products of the mines of Great Britain. Its specific gravity is considerable, being more than eleven times the weight of an equal bulk of water, It is malleable, and with ease may be reduced into very thin plates; but it is liable to crack under the hammer. It is so far ductile as to be capable of being drawn into wire $\frac{1}{120}$ part of an inch in thickness, but its tenacity is very low; for a wire of that diameter breaks with a weight a little exceeding eighteen pounds. As it possesses no elasticity, it is incapable of compression, and differs in that respect from all the other ductile metals, which diminish in volume, and, consequently, increase in density, under the hammer; but lead has the same specific gravity when it is simply melted as when it is beat or rolled out into plates. It is the least sonorous of all the metals. It is easily fusible, melting at 612°, or a heat less than three times that of boiling water; but not so easily as tin, which melts at the temperature of 442°. When first melted, or when cut, it has a brilliant lustre; but this shining surface, however, is soon tarnished by attracting oxygen and carbonic acid from the air: but this coating of carbonated oxide, once acquired, protects it from farther change. Water has no action upon it: and hence its usefulness for cisterns and pipes. When exposed to the continued action of a stream of hot air, it rapidly acquires oxygen, and is converted into a substance which is called "litharge."

Lead has been sometimes found in the pure, or native state; but very rarely, and always in small quantity. It is one of the metals which is found in the greatest variety of combinations: but there is only one kind of ore which is very abundant; the rest are chiefly known as objects of interest to the mineralogist; many of them afford very beautiful specimens for the cabinet. The common ore is a combination of eighty-six parts of lead and fourteen of sulphur, and is called usually by the name of *Galena*, or sulphuret of lead. It very often contains silver, and in sufficient quantity to pay the expense of a process for separating it. That of the north of England contains from 2 to 24 ounces of silver to the ton, and the average quantity is 11½ ounces. The galena of the mine Huel Pool, in Cornwall, yielded 60 ounces; of Guarnock Mine, near Truro, 60 ounces; and a mine near Beeralstone, in Devonshire, yielded galena so rich as to give 135 ounces of silver to the ton. A great proprietor of lead mines in the north of England had a splendid service of plate made of the silver so separated from the lead ore.

In geological position, lead is most abundantly met with in the lower strata of the secondary sedimentary deposits, especially in the carboniferous limestone. It is found also in considerable quantity in the strata below these, in the grauwacke, clay-slate, mica-slate, and even in gneiss, which is the lowest of the stratified rocks. It is found al[illegible], but more rarely, in the unstratified rocks, both in granite and in trap; but in all the instances that have been mentioned, the granite and trap have always been associated with stratified rocks containing lead ore. It is occasionally found in the coal-measures, but not hitherto in any of the strata above the coal. Galena, next to pyrites, or sulphuret of iron, is the most common of the metallic ores, and it is found in almost every country of the globe; but

there are large tracts without any deposits of it in sufficient abundance to be worked.

England produces annually nearly three times as much lead as all the other countries of Europe put together. The chief mines are in the north of England, in Derbyshire, North Wales, and Devonshire, on the borders of Cornwall. The great seat of the north of England mines is that high district around the mountain of Cross Fell, where the counties of Northumberland, Cumberland, Westmoreland, the North Riding of Yorkshire, and Durham, meet, as it were, in a central point, and from which they radiate. The mines first become of importance on Muggleswick Moor, on the borders of Northumberland and Durham, about twenty-seven miles from the east coast of Sunderland, and at Blanchland, on the river Derwent, a little to the west of Muggleswick; and they continue to the summit of Cross Fell. Aldstone Moor, in Cumberland, and Duston, in Westmoreland, are important places in this district; and there are mines in Weardale, Teesdale, Allendale, and Askendale. Mr. Forster reckons that, in this part of England, there are no less than 175 lead mines, which either have been or are now worked. The prevailing rock is the carboniferous limestone,—that great deposit which lies immediately under the coal strata in most parts of England. It is associated with strata of sandstone and slate; and there are about twenty different beds of limestone which the miners distinguish by distinct names. The series of strata at Aldstone Moor, according to a section given by Mr. Winch, consists of about sixty alternations of slate, sandstone, and limestone, in 159 fathoms, or 954 feet. The whole are covered by the coarse sandstone commonly known by the name of "millstone grit." The above dimensions are only a part of the strata where they are bored through in sinking the well, or shaft of a mine; but if we include the whole deposit from the upper surface of the old red sandstone, on which the series rests, we obtain a total thickness of nearly 2800 feet. Beds of trap, one of which is particularly designated the "Whin Silt," a miner's term, are interposed between the strata in several places. The lead ore occurs in veins, which traverse the strata in various directions, and in many irregular ways, sometimes being very slender, at other times extending to great widths. They are usually of larger dimensions in the limestone than in the slate and sandstone: one vein, which is seventeen feet in a limestone stratum, contracts to three feet in the sandstone below; and they are always much richer in ore, even in proportion to their magnitude, in the limestone. That part of the series which is richest in lead does not exceed 300 feet. The mineral substances which accompany the ore, forming what is called the "vein-stone," are calcareous spar, fluor spar, quartz, and a few others of less frequent occurrence. The mines in this part of England have yielded, of late, on an average, about 25,000 tons of lead annually, which is more than one-half of the whole produce of Great Britain; and of that amount nearly a third is obtained from the mines belonging to Greenwich Hospital. In the year 1831, 28,000 tons were raised from the mines of Cumberland, Northumberland, and Durham.

The lead mines of Derbyshire are situated in the north-western part of the country, extending as far south as the neighborhood of Matlock. That district is almost wholly composed of the carboniferous limestone, which is surrounded on all sides by the millstone-grit that lies above it. The limestone is very much disturbed in its stratifications, and is intersected by dikes and beds of trap. There are limestones of various qualities and colors in the series, chiefly of a grey and fawn color, but sometimes quite black; and several of the beds being of a texture which receives a good polish, they are used as marbles for architectural and ornamental purposes. The limestone-beds contain numerous great caverns, which are often visited by travellers. The ore is galena; but it contains in general too little silver to repay the cost of extracting it. The vein-stones that accompany the lead ore are usually calcareous spar and fluor; the latter being the substance which is so generally known by the name of "Derbyshire Spar,"—a beautiful mineral, and capable of forming handsome vases, and such like ornaments. This mineral is a compound of lime with a peculiar acid, which, from having been first found in it, was called "fluoric acid." Farey, in his 'Mineral Survey of Derbyshire,' enumerates no less than 280 mines, which had been, or were then (1811,) working.

Next in importance to the mines of the north of England, those in North Wales, in Flintshire, and in Denbighshire, are the most productive: a small quantity is raised in Shropshire, and in the neighborhood of Tavistock in Devonshire. Lead ore has been found in different places in the Isle of Man, and mines were worked there in the reign of Henry IV.; they were even in some activity as late as the early part of the last century, but they are now almost given up. It is found in the counties of Down and Wicklow in small quantities, sufficient, however, to be worth working. The lead mines of Scotland are more productive. The most important are those situated in the grauwacke, or slate-rocks, composing the range of hills which runs quite across the south of Scotland, from St. Abb's Head, north of Berwick, and in that part of it called Lead Hills and Warlock Head, on the borders of the counties of Lanark and Dumfries, north-east of Sanquhar. These mines were discovered in the year 1540, and have yielded large revenues to the proprietors ever since. The veins traverse the grauwacke rock from north to south, and very considerably in thickness, some of the principal ones being from four to ten feet in width. At one time, the Susannah vein exhibited a mass of solid ore no less than fourteen feet thick; this was probably a junction into one of several small veins. Some years ago, the mines of Lead Hills and Warlock Head together yielded about 2400 tons annually. Lead has been wrought at Tyndrum, in Argyleshire, where the ore is found in a bed of quartz, which is part of a series of strata of the primary rock, mica slate; and also at Strontian, in the same county, where the galena traverses gneiss, the oldest of the primary strata. The produce of the different lead mines in Scotland was at one time estimated to amount to 4800 tons, but it has, of late years, fallen off very considerably. Mr. Taylor, in his 'Records of Mining,' gives an account of the quantity of lead raised from the mines of Great Britain in the year 1828, which, he says, was the result of a careful inquiry among those best acquainted with the subject. It is as follows:

	Tons.
North of England Mines -	26,700
Derbyshire and Shropshire -	4,800
Devonshire and Cornwall -	2,000
Flintshire and Denbighshire -	12,000
Scotland - - - - -	1,000
Ireland, Isle of Man, &c. -	500
	47,000

Five years prior to this, the whole amount was only 36,000.

Method of obtaining the Metal from the Ore.—The ore, after having been properly broken, and separated as much as possible from the vein-stones, is roasted in a furnace, with a small quantity of coal, in order to expel the sulphur, and any other volatile matter which it may contain. After undergoing this process, it is taken to a blast furnace, of a peculiar construction, called an "ore-hearth," where, by a powerful heat, the ore is melted, and the metal separated from the dross, or slag, which swims on the surface; the mass being frequently stirred, to facilitate the separation, for a period of from twelve to fifteen hours. There are various manipulations during the process, and these, together with a supply of fuel and of lime (which is added to facilitate the reduction), are modified according to the nature of the ore, and require much skill and tact on the part of the workman. The slags, still containing a portion of lead, are subjected to another process of smelting with coke in another furnace. In all these operations a considerable quantity of the ore is volatilized, and condenses in the chimneys of the furnace: this, which is called "smelters' fume," is collected from time to time, and the lead is extracted from it.

The quantity of silver contained in the greater part of the lead ore raised in the north of England is sufficient to render its extraction profitable. The separation of lead and silver is effected by the different degrees of attraction which the two metals have for oxygen, the silver remaining unaltered, when exposed to the air of the atmosphere at a high temperature; whereas lead, under the same circumstances, becomes rapidly converted to a protoxide;—that is, becomes a new substance, composed of lead and a minimum quantity of oxygen, and which is commonly known by the name of "litharge." The lead to be refined is placed in a furnace so constructed as to admit of the ready separation of the litharge as it is formed; it is melted and farther heated till it becomes of a bright red, and then the blast of air is made to pass over it. This not only supplies the oxygen, but is sufficiently strong to sweep away the oxide as it is formed, by which means a fresh surface of the melted lead is exposed: more lead is supplied, from time to time, as the operation proceeds, and, at the end of the process, a cake of silver is found at the bottom of the furnace. The lead is recovered from the litharge, by a very simple process, which consists in mixing it with coal, and exposing it to a strong heat: the carbon of the coal has a stronger attraction for oxygen than lead has, and therefore separates it from the litharge, leaving the pure metal, which is run out into moulds to form the pigs, or bars, in which shape it is brought to market. This process of extracting the silver from the lead was not introduced in the north of England mines till the reign of William and Mary.

The working of lead mines in Great Britain dates from a remote period. The mines in Derbyshire, it is supposed, were wrought in the time of the Romans; the proofs of which are derived from blocks or bars of lead which have been found with Roman inscriptions upon them. A bar of this kind was discovered on Cromford Moor in the year 1777, and the interpreta-

tion of the inscription which has been given is the following: "The Sixth Legion inscribe this in memory of the Emperor Adrian." Another bar was met with near Matlock in 1783, the inscription of which has been translated as follows: "The property of Lucius Aruconius Verecundus, merchant of London." The Saxons and Danes, it is supposed, were also engaged in working the mines of Derbyshire, from the designation of the Odin Mine, at Castleton, which it is conjectured was so called from the name of the northern deity.

Uses of Lead.—Besides the various purposes to which it is applied in its pure state, lead is employed in many different ways in combination with other substances. The sulphuret of lead—that is, the common ore, galena—is made use of, without any previous preparation, as a glazing for coarse pottery. The protoxide, or litharge, enters largely into the composition of flint-glass, which it renders more fusible, transparent, and uniform. Combined with another proportion of oxygen, it forms *Red Lead*, which is also used in the manufacture of flint-glass, and as a paint. *White Lead*, which is so extensively used as a paint, is a combination of the metal with oxygen and carbonic acid. *Sugar of Lead*, which is used very largely in several manufactures, particularly in calico printing, and also in medicine as an external application, is a compound of lead and acetous acid, or vinegar. It is so called from having a remarkably sweet taste: it is well known, as well as most of the combinations of lead, to be a deadly poison.

Of the 45,000 tons of lead which may be estimated as the average produce of the mines of the United Kingdom, about one-third is exported. In the year ending January 5, 1833, the exports were as follows:

	Tons.
In pigs, and rolled, and shot,	12,181
Litharge	433
White Lead	652
Red Lead	396
Lead Ore	236
Total	13,898

The countries to which that quantity was exported were,—

	Tons.
United States of America	4,896
East Indies and China	2,980
Russia and Sweden	1,951
Germany	634
Brazil	526
West Indies	514
British North America	480
The Netherlands	456
Cape of Good Hope and Africa	435
New South Wales	223
Italy and the Levant	226
Spain and Portugal	226
Other places in lesser quantities	351
Total	13,898

No species of property, perhaps, has undergone so great a deterioration in so short a time as that of lead mines. In the year 1809, the market-price of lead in bars was £31 3s. per ton; and, according to the tables given by Mr. Macculloch in his 'Commercial Dictionary,' the average price for the ten years ending 1819 was £27 14s. 6d. It rose to £31 in the year 1814, when speculations at the close of the war raised the value of many of our native products; but the average of the ten years ending 1820 was £23 6s. 6d. A sudden fall took place five years afterwards, for in 1825 the price was £25 6s., and the following year it fell to £19; and it kept falling till 1832, when it was down to £13 10s. From that extreme depression it has partially recovered, the present market price being about £18 per ton. This extraordinary fall was occasioned by a sudden increase of supply from the lead mines of Spain. These mines are situated in Andalusia, partly in a range of mountains to the north of Jaen, near Linares, but chiefly in another range which lies between Jaen and the city of Garnada, and on the southern slope of them. We know little about these mines beyond their locality, for the geology of Spain is as yet very imperfectly understood. Bowles, who wrote in the year 1776, describes the mines to the north of Jaen to have been worked by the Moors, and says that the mountains are pierced by shafts in all directions; that there are two great veins which pass through granitic rock, which vary considerably in richness; and that at one time one of the mines produced in a year more than all the lead mines of Saxony together had done in twelve years. But it is the mines in the mountains of Granada from which the recent great supply has been obtained. The ore lies near the surface, and is therefore obtained without much exercise of skill, or expense of labor and machinery. Mr. Witham says, that "the metalliferous limestone of the south of Spain is so rich in galena as to furnish, even in the present imperfect state of mining in that country, about 20,000 tons of lead annually. France has some lead mines in Britany, Languedoc, Alsace, and other parts of her territory, but imports the greater part of her consumption, and chiefly from Spain; England having sent only 70 tons to France out of the 13,898 exported in 1832. There are many lead mines in Saxony, Bohemia, Silesia, and other parts of Germany. Although the exports to the United States from this country are so considerable, they are not without ores of that metal in their own country. The mines are situated in Pennsylvania, Massachusetts, and on the Fever and Missouri river in the Western States; the richest being in the latter country. The total produce in 1829 exceeded 6000 tons.

[From the New-York American.]

Cooking by Gas.—This new application of Gas seems to us of great promise, for economy, comfort and safety. We had heard nothing of it until a few evenings ago, on the invitation of Mr. *L. Suydam*, President of the Manhattan Gas Works, we had an opportunity, at his house, both of seeing the process of cooking, and verifying the fact that what was thus cooked, was "well done," even though not "quickly done."

The apparatus is of great simplicity. A circular or elliptical burner of such dimensions as may be needed—in a large family several of different dimensions would be required—is constructed, pierced with numerous and very small apertures, so that all the gas that passes may certainly be consumed. In the centre of the circle, is a permanent perpendicular spit, on which the joint to be roasted is impaled, a sheet iron funnel-shaped chimney, large enough at the bottom to include the lights, and tapering upwards so as to concentrate and reflect the heat, is then placed over the whole, and the cook may go about any other business, for the next two or three hours, fully assured on coming back at the end of that time, of finding the meat well cooked. But this is not all. Over the funnel shaped chimney is placed a large tin vessel divided horizontally into two compartments—the lower one serving as a kettle to boil water, the upper as a vessel in which to boil meats or vegetables, and the same fire and the same time required for roasting, will also suffice for boiling the water, and cooking the vegetables. The cost for fuel of such a fire, as we saw, by which a 12lb piece of beef was roasting, was stated by the superintendent, Mr. *Barlow*, at two cents an hour—or six cents for the whole period for cooking dinner—add to this the further economical advantage, that you only light your fire when you want it, and extinguish it the moment it has fulfilled its purpose, and we have a strong argument on the score of cheapness.

It is obvious that any number of these burners may be arranged—all to be supplied by one main leader—and as the cost of these fixtures is small, and only the gas actually used is paid for, it would be expedient always to have several of them.

Of course the value of this new application of gas depends upon proper care in the use of the apparatus, and on the part of the company, in the preparation and purification of the gas. As to the first, the whole thing is so simple, that except thro' wilfulness there could be no mistake, and as to the purification of the gas, the interest of the company would be so great in seeing to that, as upon its freedom from smell and brightness in burning, its general use would essentially depend—that little need be apprehended on that score.

Upon the whole we confess ourselves amazingly taken with this kind of fuel—and recommend to our friends to ascertain, at the works of the Manhattan Gas Company, the cost, and the advantages particularly in hot weather, of such kitchen fires!

Hydrostatic Pressure on the Eyes of Whales.—Admitting a cubic foot of fresh water weighs sixty-five pounds, and the same measure of sea water, sixty-six and a half, the pressure on the bodies of marine animals must indeed be great. Were a cubic foot of the latter to weigh exactly sixty-six pounds, at the depth of 8400 feet, the pressure must be the enormous weight of 554,400 pounds. Whales have occasionally run out fourteen warps of a hundred fathoms each, which, if the descent be perpendicular, is just equal to 8400 feet. However, it is probable that this course is usually at an inclination of between seventy and eighty degrees from a vertical line, but arriving nevertheless, at depths much beyond ordinary soundings. Supposing the eye of the whale exposes to the water six square inches in its entire superficies, when the monster dives to the depth to which it has been assumed that he has the power of going, the hydrostatic pressure on the eye will be equal to 23,100 pounds. Six square inches are the twenty-fourth part of a square foot; and at 8400 feet, the weight being 554,400 pounds, it follows, therefore, that the eye resists the force or pressure of just 23,100 pounds.

When a tightly corked bottle is sunk one hundred fathoms, at sea, the cork has invariably been forced in, and the bottle found full of water, when brought to the surface. If the cork be capped wtih sealing wax, on coming up it will be inverted, the sealed end being downward. On the other hand, if nothing is applied, then the cork will generally have a horizontal position. These experiments, however, have been so frequently made, that they have ceased to be interesting to philosophers.—[Sc. Tracts.]

[From the "Mechanics' Magazine and Register of Inventions and Improvements."]

TABLE,

Showing the proper number of turns or twists to an inch in Cotton Warp for every degree of fineness, or number of skeins to the pound, from 1 to 200.

1	5.	31	27.83	61	39.05	91	47.69
2	7.07	32	28.28	62	39.37	92	47.95
3	8.66	33	28.72	63	39.68	93	48.22
4	10.	34	29.15	64	40.	94	48.47
5	11.18	35	29.57	65	40.3	95	48.73
6	12.24	36	30.	66	40.62	96	48.98
7	13.22	37	30.41	67	40.92	97	49.24
8	14.14	38	30.82	68	41.28	98	49.49
9	15.	39	31.22	69	41.53	99	49.74
10	15.81	40	31.62	70	41.83	100	50.
11	16.58	41	32.01	71	42.12	105	51.23
12	17.32	42	32.4	72	42.42	110	52.43
13	18.2	43	32.83	73	42.72	115	53.61
14	18.72	44	33.16	74	43.01	120	54.77
15	19.36	45	33.54	75	43.3	125	55.90
16	20.	46	33.91	76	43.58	130	57.
17	20.61	47	34.26	77	43.87	135	58.07
18	21.21	48	34.71	78	44.13	140	59.16
19	21.79	49	35.	79	44.41	145	60.2
20	22.35	50	35.35	80	44.72	150	61.23
21	22.91	51	35.7	81	45.	155	62.24
22	23.45	52	36.05	82	45.27	160	63.24
23	23.97	53	36.41	83	45.55	165	64.22
24	24.13	54	36.74	84	45.82	170	65.19
25	25.	55	37.08	85	46.09	175	66.12
26	25.5	56	37.41	86	46.36	180	67.08
27	25.98	57	37.71	87	46.63	185	68.
28	26.45	58	38.07	88	46.9	190	68.92
29	26.92	59	38.4	89	47.17	195	69.82
30	27.15	60	38.72	90	47.4	200	70.86

Mr. S. Blydenburgh: Sir,—A difficulty is often experienced in cotton spinning manufactories, not only at their first starting, but frequently afterwards, owing to the overseer not knowing how to calculate the precise quantity of twist for any given number or size of yarn. To remedy this difficulty, you may insert, if you think proper, the enclosed table in the Mechanics' Magazine, which will show the number of turns or twists per inch, to make the yarn to be spun agree in its proportion of twist with the sample given.

Example. The most approved quantity of twist, or rate of twisting, within the circle of my acquaintance, is 20 turns per inch for warp yarn No. 16, and other numbers in proportion. Now, to come at this proportion, I extract the square root of the number to be spun and multiply it by 5, and the product is the number of turns required. Suppose the number of the yarn required to be spun is 64—then the square root of 64 is 8, which, multiplied by 5, gives 40 for the appropriate number of turns to the inch for yarn No. 64—and the same of any other number.

I have given the fractional parts of the number of turns in decimals, omitting what is over 2 places, or omitting thousandth parts of a turn, as so small a fraction of a turn can be of no consequence. Your obedient servant,

Augustus Green.

Scituate, R. I.

Remarks.—The communication and table from Mr. Green, I think, cannot fail to be acceptable to cotton manufacturers, as I have found but very few overseers of spinning rooms who knew how to come at the knowledge it contains. Mr. G.'s table, I would notice, however, giving a little more twist than I have been in the habit of giving, when engaged in cotton manufacturing, but this is mere matter of opinion. I have no doubt that 20 turns to the inch to No. 20, which is the proportion of twist that I have given, will make rather the smoothest goods, but 20 turns to No. 16 will have the advantage in strength; but this table can be adjusted to any quantity of twist. The principle is, that an inch of cotton thread is a cylinder an inch long, and the solid contents of two cylinders of the same length are to each other as the square of their diameters. Hence, if a thread of No. 16 be of a given diameter, one of half the diameter would have but one fourth of the weight, and consequently would be No. 64. But the quantity of twist requires to be in the direct proportion to the diameter.

In Mr. G.'s table, he allows 20 turns to the inch of No. 16, which is equal to the square root of 16, multiplied by 5, and the proportion will hold good with any other number by multiplying its root by the same multiplier, and the relative quantity of twist may be varied by using any other multiplier. For example: If it were wished to give No. 16 only 16 turns, then as the root of 16 multiplied by 4 equals 16, the root of any other number, multiplied by 4, would give the same proportion of twist. If instead of multiplying by 4 or by 5, any intermediate fractional part between 4 and 5, as 4·3, or 4·5, be used, the twist may be varied accordingly. Multiplying the root of the number of yarn by 4·5, or 4½, gives a small fraction over 20 turns to the inch of yarn No. 20.

S. Blydenburgh.

Old Men and Women.—"What a difficult thing it is to know how to become old! I fear I am becoming an *old woman*," said the celebrated Lord Chesterfield to Mr. Pitt. "I am glad of it," was the answer, "for, my Lord, I was afraid you were becoming an *old man*, which I am sure is a much worse thing." "Oh, that I were but an *old woman*," said old General S——— to Dr. Brookes, "I should then have both the gay and the old of my sex about me—one bringing one thing to amuse me, and another bustling away upon my little errands and business; whereas now, as an *old man* my old companions, with whom I used to be jolly and cheerful, neglect me—never visit me—they are afraid to see that state of calamity and decrepitude to which they themselves may be reduced."

An English penny, placed out at compound interest, at the rate of 5 per cent. at the birth of Christ, would, in the year 1786, have produced the enormous sum of 290,991,000,000,000,000,000,000,000,000,000,000*l.* sterling, which would make about 1100 millions of globes the size of our earth in solid gold. At single interest it would have produced only 7*s.* 6*d.*—[Boston Mercantile.]

AGRICULTURE, &c.

[From the London Penny Magazine.]

Gloucester Cheese.—In the preparation of this cheese, the milk is, in the first instance, put into a cheese-cowl (which is a large deep tub) with two teacupsful of rennet. A ball of annatto is then dipped in the milk and rubbed on a piece of pantile, which is washed into the milk till the color is as high as required. The quantity of annatto is regulated by the wishes of the cheesefactor, some liking more than others. Originally only a small quantity was employed, to induce the belief that the cheese was rich, and to prevent its being discovered that skimmed milk had been used. But now almost all the cheese is highly colored; and the color is no criterion of the goodness of the article. After an hour has elapsed, the milk is converted into curd; this is cut with a cheese-knife, which is about fourteen inches in length, and has two edges: it is cut gently at first, and then very small. It is suffered to remain ten minutes, when the milkmaid puts her arms into the cowl and draws the curd gently towards her, turning it over in the whey. She afterwards draws it again towards her to dip out the whey, which is strained through a sieve, and the small pieces of curd that are strained from it are returned to the cowl. The curd is then put into vats, in which cloths had been previously laid. The vats are placed one on another, and put in a cheese-press for ten minutes, a vessel having previously been placed underneath the press to catch the expressed whey. After this, the curd is taken out of the vats and broken small, and some hot whey is poured over it. The curd is then drawn to the side of the cowl to drain from the whey, which is ladled off and strained so that no curd may be wasted. Then the curd is again put into the vats, and they are pressed one on another; any curd that is pressed over the edges of the vats being put in the middle of the vats to make the mass as firm as possible. In an hour the vats are taken out of the press to have dry cloths, after which they remain in the press till night, when the compressed curd is taken out of the vats, turned and salted, and then replaced in the press, and there remains till morning, when it is salted, and also again the following evening. The second morning the cloths are taken off, but the cheeses are left in the vats seven or eight days, being turned night and morning. After that, they are put on the floor of the cheese-loft, (which is a large room on purpose for keeping cheese,) and turned every day for three weeks or a month. In two months the cheeses are scraped and painted. The paint is a red powder, which is strewed over the cheeses and rubbed on them with the hand. In three months, they are what is technically called "ready," and are fit for the cheesefactor.

The whey that drained from the curd, during the process of cheesemaking, is put into trendles (a sort of tub) and suffered to remain till the next day, when it is skimmed. From this whey butter is made, and the residue is given to pigs. The

rennet is made by mixing salt and water till it will support an egg, and then boiling it half an hour. When it is cold, four calves' stomachs are put to a gallon of the brine, with bay leaves and slices of lemon. In six weeks it is fit for use.

For single Gloucester cheese, the vats, which are made of elm, are thirteen inches in diameter, and about two inches and a half in depth: for double Gloucester cheese, the same diameter, and twice, or more than twice the depth. All the dairy utensils, after being used, are washed with tepid water, and then scalded. In making the double Gloucester cheese, and those that are called "truckles," the same method is pursued, except that more care is used in pressing the curd into the vats, which, for such cheeses, have three perforations to let the whey drain off; and bandages of cheese-cloth are put round when the curd is above the vat. Sage-cheese is made by pounding sage and straining the juice into a pail of milk, to which rennet is then added. The same process is observed as for other cheese till the time when the warm whey should be poured upon it, when it is broken up with as much of the simple curd as the milk-maid considers necessary, and treated as other cheese. To make the richest cream-cheeses, the thickest cream must be taken, and put, with a little salt, into a straining-cloth, which is hung up twelve hours, in order that the whey may drop from it. When it is taken from the cloth, it is put between two pewter-plates, with a weight on the upper one, and turned daily during five or six days. These cheeses can only be made in this manner in warm weather. The milk that the cows give when they are first turned into the fields in the spring, and when they are afterwards pastured in fields that have been newly mown, yields nearly as much curd again as at any other period; and it is also much richer. The principal season for making the thin cheese is from April to November; and that for making the thick, May, June, and the beginning of July.

In different districts, the produce of cows differs very much; but, in the Vale of Gloucester, from 3½ to 4½ cwt. per cow is considered a fair annual average return. The same cow, on different pastures, will yield milk of very different qualities; from one will be made rank and unpleasant cheese, while the other will be fine and rich. An estimate of the profit and expenses of a farm for twenty cows can be, from the continual variation in the state of the times and local circumstances, of course only an approximation towards the truth. But the following, made in the Vale of Gloucester in 1835, where the land is rich and excellent, is as accurate an annual average statement as the nature of the subject will admit:

Rent of 40 acres, at 50s., for pasture	£100	0	0
——— 20 acres for hay	50	0	0
——— 2 acres of arable, for potatoes	5	0	0
Making hay, 12s. an acre	12	0	0
Carrying and ricking	2	10	0
Expenses of raising potatoes and seed	15	9	0
Tithes, 3s. 6d. in the pound	27	2	6
Poor and other rates, 3s. 9d. in the pound	29	2	11
Dairymaid, 7l. a year (besides board)	7	0	0
Dairyman, at 7l. a year (besides board)	7	0	0
Wear and tear of dairy utensils		10	0
Salt		10	0
Annatto, 4s. a-pound	1	0	0
Rennet and paint	1	4	0
Interest of money laid out in stock and implements, reckoning each cow at from 8l. to 10l., and chance of loss	20	0	0
Profit	87	11	7
	£366	0	0
Cheese, 4 tons, at 4 cwt. each cow, and at 44s. per cwt.	£176	0	0
Value of whey	20	0	0
Pasture of colts and sheep	20	0	0
Profit of calves	30	0	0
Butter	90	0	0
Pigs	5	0	0
Potatoes	25	0	0
	£366	0	0

The capital necessary for the purchase of stock for such a farm would, according to present prices, be about 300*l.*; but as it is not prudent that the whole of the capital should be expended, a man who had only that sum should take a smaller farm, and reserve a part for the payment of work-people, and other incidental expenses which would be required before much profit was derived from the farm. From the depressed state of agriculture, the present time is not by any means auspicious for the commencement of business as a dairy-farmer. The requisite dairy utensils will cost about 25*l.*

Bement's Improved, Triangular, Expanding Cultivator, or Horse Hoe. [Communicated for the New-York Farmer, and American Gardener's Magazine.]

The above drawing is taken from one made for Mr. Bement's own use, with only three shares or teeth, and made very light, to be drawn by a small pony. The usual size has three shares and two scarifiers. The shares are double pointed, having one point at the top and another at the bottom, and are attached to the stock by a small screw-bolt and nut in the middle, so that when one point breaks, or is worn out, by turning the other end down, a new point or share is presented. A larger or smaller share may also be attached to the stock as occasion may require. The shares may also be replaced by scarifiers.

By the peculiar construction of the clevis, the roller or wheel, and with it the beam, can be regulated to any height required; and by raising or towing the hook, the line of draught can be adjusted accordingly. The sides may also be set wider or narrower, to suit any occasion.

In putting in such grains as are proper to be ploughed in, as barley, oats and peas, the larger shares may be used. The shares can be replaced by scarifiers, which are useful for cleaning out quack and other troublesome weeds, as well as scarifying meadows, previous to a top dressing of manure.

This cultivator or horse hoe is, in proportion to its cost, perhaps as valuable an implement as can be had on a farm, serving, as it does, a variety of uses, and being in all cases light and convenient to use; and I should think by the number of orders Mr. B. is receiving, it is coming rapidly as well as deservedly into use.

Improved Short Horns. By H. C. [For the New-York Farmer.]

The British Farmer's Magazine, for April, 1835, has been received, but is rather barren of interesting matter. A considerable portion as heretofore is occupied with British statistics and politics, by a writer who seems to be endued with an inexhaustible ductility of writing, and whose speculations, which have no interest here, remind us of the calculations of the extent to which a single grain of gold may be drawn or hammered out, if the means of its extension were equal to its capacity.

This number, however, contains a letter from an American correspondent, whom we are not able to identify, but who shows himself an inquisitive and experimental agriculturist. The subject is the "Acclimation of the Improved Short Horns." As the letter touches on matters of much interest and curiosity, we subjoin it. It is addressed to the Rev. Henry Berry, the editor of the Magazine.

"Sir,—The only apology I can offer for this intrusion on both your time and attention, must rest on the interest and sympathy common to those who are pursuing the same subject with the same views; and when an individual like yourself is so much in advance of his contemporaries, he necessarily becomes subject to the tax of inquiry. Under these impressions have I ventured on a correspondence in which I feel there is but too much of selfishness, though I sometimes indulge the hope that you may possibly feel an interest in the progress of your favorite animals, the improved short horns, in this country, together with the wonderful facility with which they have adapted themselves to a climate whose variations will sometimes range as much as 50° of the thermometer in twenty-four hours; whose winter is rigorously cold and protracted, and whose summers are excessively warm and debilitating; the one sinking the mercury of Fah. thermometer 10° below zero, and the other raising it to 85° and 95° of heat in the shade! Add to this the fact that little or no provision of succulent food, roots, &c. is made for stock in this country, and that they are consequently confined to dry hay for above

seven months in the year, which is generally "fed out" to them on the snow, without even a hovel to stand under by day or by night. To such exposures and hardships was I obliged to submit my cattle, before I could convince the farmers around me that their fine appearance and high condition were not the result of pampering care and attention. Ignorance and prejudice were both arrayed against me, and envy stood close at their heels in case of success.

"I consented to place a very fine young cow on the farm of a neighbor, there to be wintered with his two-year-old stock, and in all respects to fare as they did. She was placed with the young cattle in September, and in October they were driven on to a side hill, with a western aspect, there to winter on the snow, fed with nothing but hay, which was fed out to them twice a day, without house, shed, or barn of any description, to shelter them. The situation was well chosen for the object; it was a cold and bleak exposure, in full view of the village, and at the crossing of two roads which were much travelled. By the 10th of November our winter commenced in earnest; the ground was covered with snow; and remained so until the 19th of March; nor was the cow released from her winter quarters until the 10th of May, when she was turned out to grass in *precisely the same high condition* as when first driven to her winter station. So much for acclimation and fine constitution.

"From my childhood I have been enthusiastically fond of animals, and have communed much with them; from the puerile objects of pigeons and poultry, I passed to the more important stock of a farm, where in turn my hands have been occupied by the unpromising Alderney, the pretty Devon, the imposing Hereford; and at present by the valuable family of improved short horns; which latter have been drawn from the yards of ——— and ———. These are the sources from which I have drawn my present stock, with an occasional cross from the imported bull Admiral, sired by North Star, dam by Comet, which was sent by Sir Isaac Coffin a present to the state of Massachusetts. You will perhaps hardly be prepared for the fact, that the animals derived from ——'s stock are decidedly superior to those from ——'s —better in constitution, in form, and in their dairy qualities.

"I am, sir, thus particular in my history of these animals, not because they are mine, but because you are well acquainted with the yards from which I drew them; and the knowledge of how they have proved in this country, compared with ——'s, may be useful, as all facts are to an inquiring mind. ——'s stock have been remarkable for their deep milking—more so, I think, than that of any other in the country.

"I have been much embarrassed by a bull's (from ——'s stock) great uncertainty, and I much doubt if he ever sired over a dozen or fifteen calves in a season. A son of his is but one degree better; and so it has been with others of this family after they have become three years old. I think you once owned the dam. Is there any in-and-in breeding about her, that would account for such inability? My bulls are not kept high; they are put to hay in October, and are kept up until the middle of August, and then run to grass about two months. I do not grain them, or bestow any particular management on them during the season. I should feel greatly indebted to you for any advice you are disposed to give me in relation to this subject; or if willing to give me an account of your own method of raising, feeding, and treating a bull calf, it would be exceedingly valuable to me, and I should consider it a great favor. If attended with less trouble to yourself than a private letter, perhaps you will favor the readers of the British Farmer's Magazine with an article on the subject of the want of vigor so often found in high-bred animals. It would be interesting to trace the course of in-and-in breeding step by step, in its effects on the animal economy. I have some times thought that its effects were perceptible on the frame or bone of the animal, then on the muscles, then on the glands, afterwards on the general constitution, and lastly on the very intestines themselves; but with me this is little more than yankee guessing; with you it is matter of science and experiment. Your several most valuable essays on improving and breeding stock, I have; but I think none of them describe the course of in-and-in breeding. I have myself, with pigs, watched this in-and-in breeding as far as it has been practised, six times between brothers and sisters, and the last produce fatted easiest; this I do not understand.

"Residing as I do in a country scarcely acquainted with the first principles of breeding, and where indeed its science is almost matter of ridicule, I feel at times an anxiety lest I am losing ground; and that some general defect may creep into my herd until it becomes a characteristic feature no longer to be detected by comparison, for such I believe is frequently the case with those whose opportunity of comparing is, either from circumstances or conceits, confined to their own yards. Of course I can see but very few high bred animals, and my own are seldom seen by any who are competent to criticise the nicer and more finished points of high breeding. You will not therefore wonder at the anxiety and distrust consequent on my insulated situation; and the value I attach to correct portraits of approved animals, which at once address the eye, and leave so much *less* than the *most able* description *could* do to the filling up of the imagination. And here, sir, let me acknowledge the great assistance I have received from the excellent portrait of one of your cows, which appeared in the August number of the British Farmer's Magazine, which, while it afforded me a clear comprehension of your beau-ideal of a short horn, was an admirable illustration of your valuable remarks on *compactness* of form, and that *symmetry* of parts which really constitute weight; whereas, it is but too often the case, that the animal of extravagant disproportion in some one or more points, catches the unpractised eye, and captivates the uneducated judgment.

"The best, the most elaborate description of form, is, after all, very unsatisfactory, as it is still to be embodied by the imagination of the reader; and could these creations of the fancy be seen, they would generally be the fac-similes of some favorite figure or style of animal at home. It is, therefore, that I attach so much importance and value to the pencil, as the best possible mode of conveying a correct idea of excellence in *form*; and feel exceedingly anxious that all the portraits published in that valuable work, the British Farmer's Magazine, should possess the same fidelity and correctness as that which there represents your own cow.

"I have just received, from Mr. J. Ellman's flock, half a dozen most beautiful ewes, and a very fine stout large yearling ram, and judging from this animal I should think he had regained the vigor and constitution which were so deficient in his father's, and that too, he says, without recourse to the "Hampshire cross." I mention this because I remember your five days' visit to Mr. Coke's, where you make allusion to his flock of South-Down breed. I had intended pursuing the same course; but the ram will give the constitution and hardiness necessary for this climate. The ewes are most fashionable and finished specimens of high breeding, and may not perhaps stand our severe seasons. Animals, however, become wonderfully acclimated, and, I am inclined to think, *much hardier*, here, after a few years, than they are when imported. Our horses most certainly endure what would kill an English workhorse. The merino sheep suffered much at first, but our present flocks are as healthy as such formed animals can be. And the short-horns of earliest importation do better than those of more recent arrival—of course I speak of the descendants, and not the animals themselves, though these even become hardier. And with these facts, I have thought that when the blood has been kept pure and the stock not depreciated in this country, that the English breeder might make perhaps an importation or an exchange with this country, that would materially add to the hardihood of his animals. The very suggestion may sound like presumption to an English herder; but I pray you to remember that I have reference *only* to the effect of *climate here* on your *own* excellent materials. For instance, Mr. Ellman has sent what he considers a good selection of animals suitable to breed together. Now, I have no doubt that in three, or rather in five years, I shall have infinitely hardier sheep than any in Mr. Ellman's own flock. And I presume I have better constitutioned short-horns than those in England; for though I feed no hay *liberally*, with a few raw potatoes to correct the state of the animal's bowels, yet I never pamper or feed high; and though I house them at night, I turn them out all day on the snow, where they run and frolic with the real enjoyment of animal life. Nor are they pinched or drawn up by our cold and severe seasons, but are straight and upheaded.

"Since my arrival of South-Downs, there seems to be a strong desire to import more; and I have suggested to one gentleman,

that he should take his sheep from Mr. Coke's flock, and breed against me; and he so far listens to it as to request I would ascertain the cost of half a dozen yearling ewes, and a buck of his best. Perhaps, should you find time to favor me with a line, you would mention the cost, if you know it.

"Where is Coate's supplement to his Herd Book? I look for it impatiently.

"Very respectfully yours,

———.

"State of New-York, U. S.,
Nov. 1834."

This letter was a private letter, and as such we forbear any extended comment upon it. Under these circumstances we are at a loss to know on what principle the editor could satisfy himself in giving it to the public; excepting as he may have felt himself at liberty to follow the prevalent fashion; for all honorable confidence seems in a great degree broken up, and private letters and letters of the most confidential character are daily, and without compunction, under a new code of morals, given to the public. This letter, it cannot be denied, is sufficiently fanciful to satisfy the most imaginative.

The wintering of the short-horn cow upon a snow bank, under a bleak and most inclement exposure, and her coming out in the same high condition in which she began the winter, does not appear very decisive for the object for which it is referred to, as it seems the cow, though of foreign stock, was a native of the country, and so from her birth was accustomed to the climate of the country; nor is it without good reason that we wish to be informed whether the other young cattle wintered with her came out in proportionally good condition. If they had not, we think the fact would have been stated.

The want of vigor, or power of procreation, in the high bred bulls, is a well understood fact; and a pretty serious inconvenience, as some of us have found to our cost. That this defect is to be attributed to the system of breeding in-and-in is not so well established, though we are not disposed to controvert it; but the "yankee guessing," by which this writer, who certainly is an intelligent man, proposes to trace the effects of this system of breeding in-and-in upon the animal economy, and concludes that "its first effects were perceptible on the frame or bone of the animal, then on the muscles, then on the glands, afterwards on the general constitution, and lastly on the very intestines themselves," can scarcely be considered as any thing else, we design no offence, than pure moonshine.

The assertion "that ——'s stock have been remarkable for their deep milking, more so, I think, than that of any other in the country," is a bold assertion, and one to which we at once demur. It is too late in the day to establish this point by a simple declaration,—we ask for, we demand, the proof; and if gentlemen expect to be believed, they will be prompt to give it. Not long since I respectfully requested of the liberal and munificent proprietors of the improved short horns in this country, to give us some exact and authenticated statements of the produce of their fine cows in milk and butter and cheese. Why do they not do it? It is a matter of easy ascertainment, and the result is of great public importance. I took occasion at that time to give a list of native cows, most of which had come under my own observation, with detailed and fully certified statements of their product. Let the champions and owners of the improved short horns show one like it *if they can*. I for one shall be glad to see it. I have no prejudice against this stock; my prejudices have all been the other way; but I confess myself entirely skeptical as to their value for the dairy. I have some facts in this matter which I shall give to the public, when I think there is occasion. I can only say, that I have had seven of the are made. If this article should attract the attention of a very intelligent writer for the Genesee Farmer, who, under the signature of *Ulmus*, often gratifies and instructs the readers of that admirably conducted periodical, we wish he would by actual facts within his own knowledge vindicate the claims of a race of animals of which he comes forward as so ardent a champion. We know he is well *read* on this subject, but we want facts under his own accurate personal observation.

That the estimation of the short horns as a dairy stock has very much depreciated in England, seems hardly to be doubted. There is in this very number a notice of Shirreff's "Tour through North America" for agricultural information. Shirreff is spoken of by the editor as "his talcows; and there is not a single property in relation to thrift or dairy produce, in which they have been superior, or indeed equal, to other stock in my yard. In respect both to quantity and quality of milk, they have been quite inferior. I have no question that there are very superior individuals among them; but I believe none that have surpassed some of the instances which I gave. As a race, are they superior for the dairy? We will not say we doubt it, but we question it; and we question it in no improper spirit, but solely with a view to ascertain the truth, and that the agricultural public may know how far they may rely upon the representations which ented correspondent." He says further of him, that "Mr. S. is a farmer of the first rank, a natural philosopher, a statistician, politician, and a citizen of the world. Few persons could be better fitted for the task of giving a view of the infant agriculture of America." Yet Mr. Shirreff, in describing the live stock of a farm he visited, says, "There was a fine short horn bull intended to improve the dairy stock, which I did not see. This contemplated improvement originated from perusing the writings of the Rev. Henry Berry of England. I took the liberty of advising the cross to be tried on a small scale, *believing the short horns the worst milking breed in Britain.*"

We are often entertained with the account of Mr. Charles Colling's sale of short horns in 1810; and of the magnificent sale of the famous bull Comet, for one thousand guineas. Why do not gentlemen report some later sales? In the absence of this information I shall take the liberty of giving two accounts of recent date.

"At the Rev. Henry Berry's fourth sale of improved short horns, on the 11th February, 1834, the following prices were obtained:

Lot 1,	2 years old,	-	£24	3 0
2,	do. -	- - -	36	15 0
3,	do. bought in, £45 bid.			
4,	3 years, do. do.			
5,	3 years,	- - -	29	18 0
6,	calf sold with the above.			
7,	3 years,	- - -	30	9 0
8,	3 years,	- - -	38	17 0
9,	8 years,	- - -	33	12 0
10,	9 years,	- - -	26	5 0
11,	heifer calf,	- - -	15	15 0
12,	10 years,	- - -	36	15 0
13,	10 years,	- - -	48	6 0
14,	2 years old bull,	- -	39	18 0
15,	1 year old do.,	- -	45	3 0
16,	bull calf,	- - -	15	15 0
17,	do.	- - -	31	10 0
18,	do. nine weeks old,		32	11 0

These prices among us of course would be deemed extravagant, but they are evidently below what was expected, from some of the stock having been bought in; and they bear a very small comparison to the prices in Colling's sale.

The present number of the British Farmer's Magazine contains an account of a sale of improved short horns, made on 25th of February, 1835, and the two following days. We quote the sales of the cows and of the bulls.

COWS.

Rosette, 9 years old,	21	guineas.
Fable, 9 do.	18	"
Vicissitude, 8 do.	21	"
Vicia, 8 do.	12	"
Theresa, 7 do.	22	"
Volumnia, 7 do.	26	"
Rosalia, 6 do.	30	"
Pastime, 6 do.	27	"
Vermeil, 6 do.	13½	"
Twinkle, 5 do.	11	"
Valentine, 5 do.	14	"
Vestal, 4 do.	9½	"
Vauxhall, 4 do.	21	"
Violetta, 4 do.	15	"
Aqua Marine, 4 do.	29	"
Victoria, 4 do.	10½	"
Token, 4 do.	25	"
Fabulous, 3 do.	31	"
Truelove, 3 do.	20	"
Imogene, 3 do.	40	"

BULLS.

Anur, 8 years old,	11	guineas.
Ambo Dexter, 5 years old,	50	"
Ainsty, 3 years old,	30	"
Tullochgonun, 2 do.	20	"
Belshazzar, 2 do.	43	"

YEARLING BULL CALVES.

Pastor, - - -	26	"
Roscius, - - -	50	"
Vulcan, - - -	43	"

BULL CALVES. 1834.

Blast, - - -	29	"
Falstaff, - - -	18	"
Tommy, - - -	30	"
Plenipo, - - -	26	"

This sale shows, we think, pretty clear-

ly, a depreciation in the value of this stock, though prices may have been materially affected by local or temporary circumstances, with which we are not acquainted.

The value of the improved stock for beef is a subject upon which I shall not now enter. Two pairs of very superior cattle of this stock were last spring sold in New-York market, which were raised and fattened in Albany. One of the oxen was a very uncommon animal. At some future time perhaps we shall notice this subject more particularly; but we regret to state, which we do upon competent authority, that the reported enormous weight of these cattle was a gross exaggeration. It is said that some English gentlemen, who saw these fine cattle, *condescended* to say that they had seldom seen much finer cattle than these at Smithfield; and they thought, if we continued to progress as we had done, we should presently in the character of our beef equal *their* markets. This was John Bullism "up to the hub." We will take the reports of the Smithfield market; and we have no hesitation in saying that the average quality of the beef cattle sent year by year to Brighton market is quite equal to that of Smithfield, or any other part of the world; and though not so familiar with them, we have no doubt that the cattle of New-York and Philadelphia are fully equal to those of Brighton. Besides most of our stall-fed cattle, at least in the Connecticut valley, are fattened upon Indian meal and the very best of hay. Most of the English beef is made of straw and turnips; which can never produce so fine beef as the feed which we are accustomed to give them. H. C.

Meadowbanks, July 10, 1835.

NEW-YORK AMERICAN.

AUGUST 1—7, 1835

LITERARY NOTICES.

ELIA, by CHAS. LAMB. N. Y., GEO. DEARBORN. The four numbers of the *Republic of Letters*, containing these charming essays of Chas. Lamb, have been formed into a separate pamphlet, of some 125 pp., which is presented at the extraordinary price of 25 cents. When the neatness and distinctness of the typography is considered, the capital white paper, and the amount of matter, this *is* indeed an extraordinary price. We need not add, that a more agreeable or a more unexceptionable collection, than this, cannot, at this locomotive period of the year, be packed away for hourly use, in one's travelling sack.

HISTORY OF THE LIFE AND VOYAGES OF CHRISTOPHER COLUMBUS AND OF THE VOYAGES AND DISCOVERIES OF THE COMPANIONS OF COLUMBUS. By WASHINGTON IRVING. 3 vols. 8vo. Philadelphia, *Carey, Lea & Blanchard.*—We have here a new and handsome edition of this great American work; which will live, while the language in which it is written, and the continent revealed by its Hero, last.

The Life of Columbus has undergone, as we learn from the publishers, a complete revision by the author, and new matter has been added to the appendix.

Vol. 3 presents, in a uniform style with that of the other two volumes, the Lives and Voyages of Columbus's Companions, and together they constitute a mass of historical information and documents, prepared and arranged by one of our own countrymen, which all reading Americans should possess. We extract from the Appendix in Vol. II., the last note—referring to the signature of Columbus—of which the details, will be new probably, and interesting, to most of our readers:

As every thing respecting Columbus is full of interest, his signature has been a matter of some discussion. It partook of the pedantic and bigoted character of the age, and perhaps of the peculiar character of the man, who, considering himself mysteriously elected and set apart from among men for certain great purposes, adopted a correspondent formality and solemnity in all his concerns. His signature was as follows:

S.
S. A. S.
X. M. Y.
XPO FERENS.

The first half of the signature, XPO, (for CHRISTO,) is in Greek letters; the second, FERENS, is in Latin. Such was the usage of those days; and even at present both Greek and Roman letters are used in signatures and inscriptions in Spain.

The ciphers or initials above the signature are supposed to represent a pious ejaculation. To read them one must begin with the lower letters and connect them with those above. Signor Gio. Batista Spotorno conjectures them to mean either Xristus (Christus) Sancta Maria Yosephus, or Salve me, Xristus, Maria, Yosephus. The North American Review, for April, 1827, suggests the substitution of Jesus for Josephus, but the suggestion of Spotorno is most probably correct, as a common Spanish ejaculation is "Jesus Maria y Josè."

It was an ancient usage in Spain, and it has not entirely gone by, to accompany the signature with some words of religious purport. One object of this practice was to show the writer to be a Christian. This was of some importance in a country in which Jews and Mahometans were proscribed and persecuted.

Don Fernando, son to Columbus, says that his father, when he took his pen in hand, usually commenced by writing "Jesus cum Maria sit nobis in via;" and the book which the admiral prepared and sent to the sovereigns, containing the prophecies which he considered as referring to his discoveries, and to the rescue of the holy sepulchre, begins with the same words. The practice is akin to that of placing the initials of pious words above his signature, and gives great probability to the mode in which they have been deciphered.

FRANCESCA CARRARA, by the the author of Romance and Reality, &c. 3 vols. Philadelphia, E. L. CAREY and A. HART.—An Italian love story, carried through three volumes and two brilliant courts, that of Louis XIV. and that of the restored Charles—during the course of which, figure the historical personages who make up the ordinary *dramatis personæ* of the tales of that period—is here presented to us by L. E. L. It is hard reading—and we frankly admit that we have not mastered it.

DACRE, a novel—EDITED BY THE COUNTESS OF MORLEY. 2 vols. Philadelphia, CAREY, LEA & BLANCHARD.—This is a novel of our day and generation, though not of our country. It is agreeable, sprightly, and as to the chief characters, *Dacre* and *Lady Emily*, well conceived and sustained.

It is some time since this novel appeared, and was well received in London—and we are surprised, as times and tastes go, that it was not re-published here before.

FOUR YEARS' RESIDENCE IN GREAT BRITAIN, from 1831 to 1835, by C. COLTON. N. Y., HARPER & BROTHERS. We are not destined to fame, we fear, as tourists in foreign lands. These volumes from the pen of a clerical gentleman—attached we believe to the naval service—differ indeed essentially from those of a brother chaplain, Mr. Stewart, by not recording or seeking to record, in "rose colored" phrase, the experiences of the writer in high society, but they are liable to the same objection, of want of originality and vigor. The style of Mr. Colton is negligent, and—tho' he speaks of being embarrassed by the copiousness of his materials, so much so that we are to have another work from him, under the title of *London*, descriptive of that great metropolis—there is in his pages a most undue quantity of extracts from guide books, newspapers, and legends of childhood—the story of Prince *Lewellynn* and his dog *Gelert* for instance.

That portion of the second volume which treats of the Established Church of England, seems to us, objectionable in spirit, and exceedingly partial in its selection of facts. It is, indeed, little more than a recapitulation of the partizan charges, in their most exaggerated form, used by political or personal opponents—fortified by a copious selection from the Irish press of the enormities—not softened in the relation—to which the exaction of tithes too frequently leads in that ill-governed country—and without any glimpse of the other side of the question. Such a mode of treating such a subject, does not appear to us either just, philosophic, or christian.

A good book of travels in England, by an *American*, is yet to be written—for the capital volumes of *Simond* hardly belong to us, though the writer was an adopted citizen.

ORATION DELIVERED ON THE 4TH JULY, 1835, BEFORE THE CITIZENS OF BEVERLY, WITHOUT DISTINCTION OF PARTY, by EDWARD EVERETT,—published by request; Boston, RUSSELL ODIORNE & Co.—The character of Washington is, after an eloquent exordium and introduction, made the topic of this July oration. A happier one, as in such natural association with the day, and so susceptible of brilliant illustration, could not have been selected,—and justice has been done to it.—We can only find room, however, for a comparatively brief extract. After describing the conduct of Washington on the fatal field of *Braddock's* defeat, his daring efforts, his conspicuous figure, his miraculous escapes, the orator proceeds:

From this period, the relation of Washington to his country was sealed. It is evident that his character, and conduct, and preservation,—though he was scarcely twenty-three years of age,—had arrested the public attention, and awakened thoughtful anticipations of his career. I confess there is something, which I am unable to fathom, in the hold which he seems already to have gained over the minds and imaginations of men. Never did victorious Consul return to republican Rome, loaded with the spoils of conquered provinces,—with captive thousands at his chariot wheels, an object of greater confidence and respect,—than Washington, at the close of two disastrous campaigns, from one of which he was able to save his regiment, only by a painful capitulation,—in the other, barely escaping with his life and the wrecks of his army. He had formed to himself, on fields of defeat and disaster, a reputation for consummate bravery, conduct, and patriotism. A sermon was preached to the volunteers of Hanover County, in Virginia, by the Rev. Samuel Davis, afterwards President of the Princeton College, in which he uses this memorable language: "As a remarkable instance of patriotism, I may point out to the public that heroic youth, Colonel Washington, to whom I cannot but hope Providence has hitherto preserved, in a signal a manner, for some important service to his country."

The entire completion of this extraordinary prediction was of course reserved for a future day, but from the moment of its utterance its fulfilment began. Terror and havock followed at the heels of Braddock's defeat. The frontier settlements were broken up,—the log-cabins were burned,—their inmates massacred, or driven in dismay across the mountains.—A considerable force was raised in Virginia, and Washington was appointed its Commander-in-chief. But the councils of England were weak and irresolute, and no efficient general head as yet controlled those of the colonies. The day star of Pitt was near, but had not

yet ascended above the horizon. Disaster followed disaster, on the frontiers of Virginia, and Washington, for two years and a half, was placed in precisely the position, which he was afterwards to fill in the revolutionary war. A reluctant and undisciplined militia was to be kept embodied by personal influence; without pay without clothes, without arms. Sent to defend an extensive mountain frontier with forces wholly inadequate to the object,—the sport of contradictory orders from a civil governor inexperienced in war,—defrauded by contractors,—tormented with arrogant pretensions of subaltern officers in the royal army,—weakened by wholesale desertions in the hour of danger,—maligned,—the youthful Commander-in-chief was obliged to foresee every thing,—to create every thing,—to endure every thing,—to effect every thing, without incouragement, without means, without co-operation. His correspondence during the years 1756, and 1757 is, with due allowance for the difference of the field of operations, the precise counterpart of that of the revolutionary war, twenty years later.—You see it all,—you see the whole man,—in a letter to Governor Dinwiddie of 22d April, 1759:—

"Your honor may see to what unhappy straights the inhabitants and myself are reduced. I am too little acquainted, sir, with pathetic language, to attempt a description of the people's distresses, tho' I have a generous soul, sensible of wrongs and swelling for redress. But what can I do? I see their situation, know their danger, and participate their sufferings, without having it in my power to give them farther relief, than uncertain promises. In short, I see inevitable destruction, in so clear a light, that unless vigorous measures are taken by the assembly, and speedy assistance sent from below, the poor inhabitants that are now in forts must unavoidably fall, while the remainder are flying before a barbarous foe. In fine, the melancholy situation of the people,—the little prospect of assistance,—the gross and scandalous abuse cast upon the officers in general,—which is reflecting on me in particular for suffering misconduct of such extraordinary kinds,—and the distant prospect, if any, of gaining honor or reputation in the service, cause me to lament the hour, that gave me a commission, and would induce me, at any other time than this of imminent danger, to resign without one hesitating moment, a command from which I never expect to reap either honor or benefit; but on the contrary, have an almost absolute certainty of incurring displeasure below, while the murder of helpless families may be laid to my account here! The supplicating tears of the women, the moving petitions of the men melt me into such deadly sorrow, that I solemnly declare, if I know my own mind, I could offer myself a willing sacrifice to the butchering enemy, provided that would contribute to the people's ease!"

And here I close the detail. You behold in this one extract your Washington, complete, mature, ready for the salvation of his country. The occasion, that calls him out may come soon or it may come late, or it may come both soon and late;—whenever it comes, he is ready for the work. A misguided ministry may accelerate or measures of conciliation retard the struggle; but its hero is prepared. His bow of might is strung and his quiver hangs from his shoulders, stored with three-bolted thunders. The summons to the mighty conflict may come the next year—the next day; it will find the rose of youth on his cheek, but it will find him wise, cautious, prudent, and grave: it may come after the lapse of time, and find his noble countenance marked with the lines of manhood, but it will find him alert, vigorous, unexhausted.—It may reach him the next day on the frontiers in arms for the protection of the settlement; it may reach him at the meridian of life, in the retirement of Mount Vernon; it may reach him as he draws near to the grave; but it will never take him by surprise. It may summon him to the first Congress at Philadelphia; it will find him brief of speech, in matter weighty, pertinent, and full, in resolution firm as the perpetual hills, in personal influence absolute. It may call him to the command of armies; the generous rashness of youth alone will be chastened by the responsibility of his great trust, but in all else he shall exhibit unchanged that serene and godlike courage, with which he rode unharmed through the iron sleet of Brabdock's field. It may call him to take part in the convention, assembled to give a constitution to the rescued and distracted country. The soldier has disappeared, the statesman, the patriot is at his post of duty; he sits down in the humblest seat of the civilian, till in the assembly of all that is wisest in the land, he by one accord is felt the presiding mind. It will call him to the highest trust of the new formed government; he will conciliate the affections of the country in the dubious trial of the constitution; he will organize, administer, and lay down the arduous duties of a chief magistracy unparalleled in its character, without even the suspicion of swerving in a single instance from the plan of rectitude. Lastly the voice of a beloved country may call him for a third time, on the verge of three score years and ten, to the field. The often sacrificed desire for repose,—the number and variety of services already performed;—his declining years might seem to exempt him, but he will obey the sacred call of his country in his age, as he obeyed it in his youth. He gave to his fellow citizens the morning, he will give them the evening of his existence;—he will exhaust the last hour of his being, and breathe his dying breath, in the service of his country.

A Discourse on Natural Theology, showing the nature of the Evidence and the advantages of the Study, by Henry Lord Brougham, F. R. S., and Member of the National Institute of France. 1 vol. Philadelphia, Carey, Lea & Blanchard.—The extraordinary man who is the author of this treatise, seems to have a capasity for work, and a reach of subjects, beyond any living person This discourse, as we learn from a prefatory address to his friend Lord Spencer, (late Lord Althorp,) was chiefly written in 1830 and 1831, in the midst of an active professional and political life. Some additions were made in 1833, and others in 1834, while Lord Chancellor—and the whole has been revised since his retirement from that high station.

A more remarkable contribution to the cause of sound and just thinking on natural Religion, considering the ordinary pursuits and subjects of the investigation of the author, has never, probably been made public—and they who may dislike Lord Brougham as a politician, or distrust him as a philosopher, will find it difficult to resist his power as a theologian, deriving his arguments in favor of the existence of a Deity, even more from the intellectual qualities of man, than from the physical structure of the universe. And herein consists one of the chief novelties of this work, that it argues from the mind itself, to the existence of the great first cause.

The American Monthly Magazine—for August—D. K. Minor & T. & C. Wood.—Punctual to the hour, this periodical, for August, is just laid upon our table. We had only time to glance our eye over the capital *Fire Island Ana.*

EUROPEAN INTELLIGENCE.

Later from Europe.—By the *Troy*, from Liverpool, papers of 1st July from London are received.

The intelligence of greatest interest by this arrival is that of the death of the Carlist chief, *Zumalacarreguy*, which—such is the interest always inspired by heroism, and the development of great resource and ability in adverse circumstances—we confess we heard with regret, though we desire the success of the young Queen's cause, and abhor the cruelties which *Zumalacarreguy* too often practised.

From an article in the *Journal des Debats*, on the intervention in Spanish affairs, it would seem that a more national character is to be given to the efforts both of England and France, by the expedition to the coast of Spain of vessels of war of both nations, and by France, of the foreign legion in mass, and under French officers, now serving in Algiers. On the other hand, it would seem, that the Northern powers disapprove this intervention and if, as has before been said, enlistments and money for Don Carlos should be furnished by those Powers, the chief nations of Europe would find themselves in presence and in hostile array on the soil of Spain—and a fierce contest, wholly foreign to the original cause in which they embarked, would probably soon embroil the whole Continent.

Another change has been made in the command of the Queen's troops. *Valdez*, the late Minister of War, who quitted his seat in the cabinet to take command of the army, having been recalled. The death of the great Carlist partizan, however, is more likely to serve the Queen's cause, than the efficiency of her own commander.

Matthews, the comedian, is dead.

Lord Durham has been appointed British Minister to the Court of St. Petersburg.

Deuz, the Jew, who betrayed the Duchess de Berry into the hands of the French Government, has published a pamphlet detailing an account of his treachery on this memorable occasion.

Baron Gras, the celebrated historical painter, whose pencil adorned the cupalo of the Pantheon, committed suicide on Friday last. His body was found in the Seine on Saturday. He had left a letter in his writing desk announcing his intention, and had sent his last will for safe custody to his attorney.

The Emperor of Austria has invited the northern Sovereigns to a conference at Toplitz, and they have accepted the invitation. The meeting will take place in the latter end of October. Preparations are made with the greatest activity for the review at Kalisch; the Russian troops are expected at Dantzic on the 1st and the 4th of August, and the Emperor and the Empress will arrive on the 16th.

According to the last accounts from Naples, Vesuvius continues to throw out stones and cinders, and a grand eruption is expected. Some slight shocks of an earthquake have lately been felt in the south of Italy.

The Ladies.—Mr. Grantly Berkeley gave notice, on Thursday night, in the House of Commons, (for July 16th,) of a motion for a select committee to consider the best means of setting apart and adapting a portion of the strangers' gallery for the admission of ladies during the debates.

Emigration.—The total number of emigrants from the United Kingdom in the last year, was 76,222, being an increase of 13,695 on the number of the former year. Of these, 32,799 sailed from Ireland. The Irish emigrants of the last year exceeded those of the former by 10,604.

Mehemet Ali has withdrawn his opposition to the expedition of Colonel Chesney on the Euphrates, which arose solely from his not having received instructions from the Porte. The Malta Gazette contains an account of the disembarkation of the expedition at the mouth of the Orontes. Hassen Pasha Begter, Bey of Tunis, died on the 20th of last month, and is succeeded by his brother, Sidi Mustapha. It is supposed that Turkey, or to speak more truly, Russia, will deal with Tunis as with Tripoli.

Zumalacarreguy is dead.

This is the most important intelligence that has been communicated from Spain since the commencement of the civil war. In him was concentrated the hope of the Carlists, and with him sinks the cause of which he was the chosen champion. The death of Zumalacarreguy was communicated to the French government by telegraph. The fact was thus officially announced on the Paris Bourse on the afternoon of Saturday:

"Telegraphic Despatch.

"Bayonne, 27th June.

"General Harispe to the Minister at War and the Minister of the Interior—Zumalacarreguy died on the 25th inst., at 11 o'clock, in the morning, in consequence of his wound.

"De Richebourg."

Zumalacarreguy was personally one of the bravest officers in Spain, but like most of his chivalrous countrymen, his valor was stained by an innate love of cruelty, which he too often indulged at the expense of the lives of the unfortunate prisoners who fell into his hands. His talents were altogether military; nor had he the remotest idea of the pos-

sibility of governing men by any other means than the influence of well grounded fear. As a soldier, he was a strict observer of discipline, and exacted from those under him a blind obedience to his commands. It is asserted, however, that notwithstanding the cruelty of his disposition, he refused to carry the war beyond the banks of the Ebro, and that his real object was to secure the franchises of the Basque provinces by separating them from the rest of the kingdom of Spain, and elevating them into an independent State, of which Don Carlos was to be proclaimed King. On the other hand, it has been maintained that Zumalacarreguy prevented Don Carlos from capitulating, and almost kept him prisoner, from an apprehension that he himself would be sacrificed to gratify the vengeance of the Queen Regent and her government.

Letters from Madrid to the 21st inst. announcing the recall of General Valdez from the command of the army in the North, have been received. The late Captain General is succeeded in the command by General Murillo, assisted by General Sarco del Valle, who has been appointed chief of the Staff, and is now on his way to Pampeluna, the head quarters of the Constitutional army. No cause is assigned for the removal of Valdez, but we have reason to know that his want of energy greatly dissatisfied the Queen's Government.

Madrid was tranquil up to the date of the letters just received. The discovery of the Carlist conspiracy in the capital a few days before, was really fortunate, as its ramifications had been extended in several dangerous directions. The ringleaders of the plot have been secured.

By command of the Spanish Government, his Britannic Majesty's Order in Council of the 10th of June, suspending the Foreign Enlistment Act, has been posted up on the Madrid Bourse.

The French Journals of Saturday bring a report of the death of General Eraso, Zumalacarreguy's successor in the command of the Carlists, who is stated to have been killed by a fall from his horse. Eraso was a man of courage, but his flight from France, where he was a prisoner on parole, reflects a deep stain on his character both as a soldier and a man of honor. We regard the rumor of his sudden death as premature, although repeated in several letters dated from the Spanish frontiers.

Correspondence of the London Morning Herald.

ATHENS, May 31.—The 4th of May was hailed by the Greeks as a national fete; the bones of Karaiskaki were brought from Salamis, and landed at the Piraeus under a salute of minute guns, from thence conducted to the spot in the rear of the Phalernon, where it is thought he fell. A very neat monument had been erected (about 300 paces from the new roads), alongside of which the King, accompanied by the whole Corps Diplomatique, and a very numerous staff, received the procession; the funeral oration was read by M. Rizos, the Minister for Foreign Affairs, and his Majesty was addressed by one of the old Capitani, recalling to mind Karaiskaki's last words. His Majesty most graciously took off the Grand Cordon of the Saviour, which he wore himself, and placed it on the remains, regretting that he had not had the opportunity of paying the honor to him while alive which he had paid to his remains, and ordered that this cross should remain to the family as a memorial of their ancestor's virtues: this highly delighted the Greeks, who enthusiastically rent the air with "Long live King Otho." The daughters have received a portion of land and 6,000 drachms as a dowry.

A number of the Capitani and old Philhellenes of those present in the different battles about Athens gave, a few days ago, a Palicari dinner in the Olive-grove to the King, and as divers rumors were afloat as to who should remain with the King, they studiously avoided inviting General Heideck, but on their return in the evening they assembled before Count Armansperg's door, sung national airs, and cried out, "Long live the King," "Long live Armansperg." This was a pretty good hint of the wish of the nation, as they were most of them leading men, and men of all parties. It is said M. Kleutze, the Architect, is preparing at Munich a machine, with which he is to return here to raise the fallen columns of the Parthenon; the Government had just laid a tax on those who visit the Acropolis, by way of making them contribute to its repairs.

Sir Josias Rowley is still at Salamis, with the squadron, but it is rumored on the arrival of the packet they will sail for the East.

Every vessel that comes from the Black Sea mentions that great preparations are making at Sebastopol, said to be for a summer cruise.

M. de Jenison arrived a few days ago to compliment the King on his coming to the throne on the part of the King of Bavaria; it is said he goes from this Bavarian Ambassador to Paris.

Captain Sir Edward Lyons arrived here three days ago in 11 days from London; his arrival has excited considerable interest here; his being so generally liked in Greece has made every one believe that he has brought some good news, but as yet we only know he was bearer of despatches.

The Greeks, who are naturally such a lively set and fond of news, have been greatly disappointed that their young King should be so dilitory in deciding; it has but just been settled, at the last moment, that Count Armansperg should remain, but we know not in what capacity. This has been a busy week. The Demarchos has at last been named. Streets have been opened for the procession of the King's going to Church, and the programme of the ceremony that is about to take place has just been made public. This evening at sunset 26 guns will be fired, and 75 to morrow at daylight. At 8 o'clock, A.M., the troops will line the different streets. At half past 9 o'clock, the Greek functionaries, headed by the Ministers, repair to the palace, when the King, seated on the throne, will receive the Regency. Count Armansperg will deliver a speech suitable to the occasion. The Regency is then to declare that it deposes its power into the hands of His Majesty. The Minister of the King's household takes charge of this declaration. His Majesty then retires to his private apartments; a herald is to proclaim the accession of His Majesty to the people, and couriers sent off to all the departments and provinces. At half past 10, His Majesty, accompanied by the Ex Regency and Greek Ministers, &c. proceeds to the church prepared for the occasion, where he will be received by the corps diplomatique, and the admirals and captains of the vessels anchored at Salamis and in the Piræus. During the Te Deum a salute of 101 guns is to be fired, after which the King returns to the palace in the same order, when he will receive the felicitations of the corps diplomatique, the Greek Ministers, other functionaries, &c. At sunset another salute of 101 guns will be fired; the town is ordered to be illuminated in the evening. We are to have reviews, and during the three days an imitation of the Olympic games. We are in expectation of a change of Ministry, a long list of promotions, &c., nothing yet having transpired.

The coronation is put off until the King's marriage, partly for want of a crown and sceptre, those ordered in Paris not having arrived in time, and partly on account of the expense.

ACCESSION OF PRINCE OTHO.

Otho, by the Grace of God King of Greece, to the Greeks:

Greeks,—When by the confidence of the high mediators of your independence, and by your free choice, I was called to the throne of Greece, I abandoned my parents and my country, I left all that I had dear to me, and, impelled by the desire to fulfil my duties, I hastened in the midst of you to consecrate to you my endeavors, my cares, and my entire love. You have welcomed me with joy, with mutual love. You have answered my love to you! I called on you to be united; you all obeyed my call. Anarchy was overwhelmed. The unpardonable works of a few individuals ceased, without leaving a shadow behind, and tranquillity and order reigned throughout our beautiful land. Your families, your properties, found the protection of which for a long period of time they had been deprived.

Under the shadow of the throne, the culture of your lands flourished, your habitations rose from their ruins. The communes were drawn closer together, tribunals were organized, the foundations of many benefits laid, many wounds were cicatrized. Thanks to the Divine Providence that watches over you! Thanks to the Great Powers who have continued their favor and their succor to you! Thanks to your noble sentiments, by which the institutions of the Government were received with confidence and devotion!

Greeks, notwithstanding all the bounties which the favor of the Omnipotent has showered on Greece, there exist yet many wounds still bleeding from the events of past years. Notwithstanding all the progress which the country has made, it has yet need of innumerable ameliorations, of great cares, and of serious attention, before the traces of the many sufferings which for numerous centuries have overwhelmed with unexampled destruction the fine soil of Greece, can disappear.

Greeks, I know your sufferings, your wants, your wishes. I know the unexampled sacrifices that you have made for your country, your magnanimity, the heroic bravery with which you have fought, the glory of your immortal ancestors, your own renown. I know the full extent of your just hopes of a more glorious and happy future.

Greeks I will remain firm amongst you. My regard shall be continually towards you—towards your good—towards your happiness. No labor shall weary me, no difficulty shall discourage me—I shall live among you, and for you. This day, the period at which I fully assume the reins of government—I again promise you to protect the holy religion of my subjects, and to be the sure support of their holy church—to grant justice to all—to be faithful to the laws—to protect with the divine assistance, your liberties, your rights, and your independence, from all attacks—and, in the whole of my administration, to have before my eyes your happiness and your glory.

With unchangeable firmness, I will preserve order and public tranquillity, for without these security cannot exist.

My Royal grace shall be granted to all those unfortunates who, by sentences of the tribunals, are at this time deprived of their liberty. But the rigor of the laws shall be put in force against those who in future shall dare to compromise the tranquility of the country; the security of the kingdom demands this.

Far from you be all passions, all discord, and every unworthy action; be united forever.

I will take good care for the performance and perfection of the laws, and with all my power protect your property, your legitimate liberties, and endeavor to consolidate them gradually by institutions and laws adapted to the state of the country, and to the just wishes of the nation.

On every occasion I will evince my profound veneration for the Eastern Church; and on this point, in respect to the throne of Greece, as far as regards my posterity, I will take particular care and consideration.

I will devote my attention to the schools, and take especial care for their increase and amelioration. To the arts and sciences I will give every succor of which they can have need, that they may again revive in Greece, their ancient country and glory.

I will endeavor in every way to augment the happiness of the country, to encourage industry and commerce, to supply the defects of the Administration; especially will I take the greatest care for the improvement of the public resources, and with unwearied study endeavor, as soon as possible, to create an equilibrium between the revenue and the expenditure.

I will always have before my eyes the sacrifices that every one has made for his country, but the extent of my consideration must be limited by the means which exist.

Greeks my trust is in you—my love to you has no bounds. In your affections, in your confidence, I find the greatest gratification.

The task of government is heavy.—I feel it and you must not be animated with unreasonable hopes. Gradually, and little by little, it is only possible to arrive at the goal of your wishes, which are also mine. With courage I assume the duties which the hand of the Omnipotent has imposed upon me, by the Divine grace, and your aid, I will fulfil them.

Your glory, your happiness, are my only objects. To succeed in these will be my greatest reward.

OTHO.

Athens, 20th May, [1st June,] 1835.

SUMMARY.

The U. S. Frigate Constitution is, according to the Gazette, under sailing orders for the Mediterranean.

OSWEGO LOTS.—A lot in *East Oswego*, of 60 feet front by 120 feet deep, was sold last week for $25,000.

A new line of PACKET Boats on the Canal from *Utica* to *Oswego*, now carries passengers and *finds them* for Fifty Cents.

BALLSTON SPA.—We have been requested by a

gentleman just returned from the Springs, to state that the house at *Ballston* is in fine order for the reception of company, and that every effort is used by its present proprietor, *Mr. Watrous*, to accommodate visiters.

To families and invalids wishing to spend a few weeks pleasantly in the country, few establishments, he says, offer greater attractions than *Sans Souci*.

From the Rocky Mountains.—*St. Louis, July* 18, 1835.—Mr. Campbell, of the firm of Sublette, and Campbell, reached this city on Wednesday last, from the Rocky Mountains. This gentleman left here on the 9th of April last, by land, with but two companions, to perform a journey of one thousand miles, through a desert land, untenanted save by savages. He returned on the 15th of July. If we deduct several days, during which time he was detained in the settlements, it will leave only three months for the accomplishment of this perilous adventure. The same route was never before travelled in so short a period. By th- by, we shall think nothing of making excursions to the Mountains; and undertake them with scarcely greater inducements than govern the multitudes who flock to our places of fashionable resort in the summer months.

Mr. Campbell was not molested in any manner, by the numerous bands of Indians through whose country he was compelled to pass. He remained about fifteen days at the company's post at the foot of the Black Hills. Returning, he resolved to attempt the *navigation* of the Platte river, a means of transportation which has heretofore been, by the traders generally, deemed altogether impracticable. He accordingly constructed a batteaux, loaded it with a large number of packs of Buffalo robes, and by the occasional employment of small boats made of *skins*, he was enabled to descend the river a distance of six hundred miles in safety. The navigation of the Platte is made very difficult by its great width, its shallowness, the absence of a channel in any part of it, and its quick-sand bottom.

The traders and trappers in that country during the past winter, were generally successful. Mr. Campbell undrstood from some of the Snake Indians, and little doubt is entertained of its correctness, that a party of Indians of an adjoining tribe had murdered two of the trappers belonging to the New England expedition under Capt. Wyeth.—This is the only outrage known to have been committed during the year, in that country, upon Americans.

The U. S. Dragoons under Col. Dodge, were at the Grand Pawnee Village. They were in excellent health—had formed a very advantageous treaty with the Pawnees, and were shortly to proceed to the Aurickaree village, a nation particularly hostile to our people, for the purpose of holding a council with them. This tribe, to the number of a thousand warriors and about 4000 lodges, were four days travel from Col. Dodge's encampment. Mr. Campbell had an interview with them at their village—was hospitably treated, and informed by them of the position of the Dragoons, and of the expected visit. Preparations were being made to give them a favorable reception.—[Republican.]

[*From the Illinois Register.*]

From the Dragoons.—We have been politely furnished by O. H. Browning, Esq. with the following interesting extract of a letter addressed to him from Cantonment Leavenworth, by a gentleman who accompanied the U. S. Dragoons, in the summen of 1834, in their expedition to the Pawnee villages. The extract contains some new and entertaining historical facts, as also a graphic description of the scenery presented at the Pawnee Peaks; and we doubt not will be perused with interest by our readers.

"On the 19th of July we again resumed our march under the guidance of the above-named Pawnee Mohaw, who, to my mind, proved himself to be a treacherous villain; for he led us a circuitous route of three days, over an excessively rugged rocky country, and amid inconveniences of every description, when, on our return to the encampment, we traversed a beautiful prairie, and the distance not to exceed forty-five miles. Yet I, for one, did no regret it, for our way led through scenery not exceeded—I hardly believe equalled. I have read of the Alps, and have seen paintings of the most celebrated portion of Alpine scenery.—The Alps are higher; but in sublimity, grandeur, and general effect, they *must*, and in time *will*, yield the palm to the hitherto unknown, unvisited Pawnee Peaks. Here the gradual swell, the beetling precipice, the castellated battlement, the solitary tower, the glittering, roaring cascade, the shady vale, and opening vista, disclosing in its turn distant views of new grandeur—all, all the rich combinations of mountain scenery are here thrown together, forming an unrivalled whole, which, in years to come, will be the goal of all travellers on earth.

"On the evening of the 21st we reached the goal of our enterprise, the long-sought Pawnee village. Here was new matter of wonder. We approached a sweep of perpendicular mountains, whose tops are wholly inaccessible to the human foot from this side, and reached the village through the passage which leads to it, a narrow defile, which one hundred good men, with a proper armament, and a good engineer, could keep against the countless legions that Napoleon led to Moscow.

"After passing through this defile, we immediately entered the village, situated in a beautiful bottom, on the margin of a river, supposed, by some, to be main Red river, but which is only a principal fork of that stream.

"Like others of the southern rivers, its bottom is a flat bed of fine sand that maintains nearly the same level all the way across, the water now but a few inches deep; *yet, unlike* the water of other rivers, this is nearly as salt as the water of the Kenhawa saline. When this stream is full, it is 500 yards wide, and about ten feet deep. The natives say that the salt taste proceeds from great beds of rock salt about twenty miles above, and exhibited to us quantities that they had procured there. Our arrival here was timely; for we were hungry, and had nothing to eat. They had plenty of good corn just in good eating order, pumpkins, squashes, water and musk melons, together with dried Buffalo and horse meat. For supplies of these articles we gave them tobacco, tin cups, buttons, the yellow stripes from our pantaloons, &c.; but when we offered them money they laughed at us, for these unsophisticated beings knew not its value. When we could explain to them the use of any thing, they would trade for it; but as we could not make them sensible of the use of money, none of it would they have.

"They call themselves Towea Indians, and appear amiable and industrious. The women are beauties, yes, real first rate, light copper beauties, for devil take the ugly one that I saw, that was less than a "centurion," which word, a school mate of mine once defined to be a person one hundred years old, and got flogged for his pains.

"On the 22d and 23d, the Kiewa, Waco and Camanche Indians arrived, and our little band was surrounded by between three and four thousand warriors, yet we trembled not. On the 24th the treaty proceeded, and by it, among other things, we recovered from them a little white boy, the son of Gabriel Martin, a wealthy planter of Louisiana. He had gone up, with some friends, early last spring, on a hunting excursion to the False Washita, and whilst separated from the rest, was attacked by the Indians and killed, and his son taken prisoner. They concealed the boy on our approach, and he probably would never have been liberated, had it not been for a negro, likewise a prisoner, who informed us where he was concealed. He was seven or eight years old, and unusually intelligent."

Indiana State Loan of 600,000 Dollars—5 per Cent Stock.—Viz. 400 thousand Dollars Bank Loan, irredeemable for 20 years, taken at a premium of 4 1-2 per cent., or 104 50-100 Dollars, for $100 Stock.

200 thousand Dollars Canal Loan, part irredeemable for 25 years, and a part for 30 years, at a premium of 5 per cent. or 105 Dollars, for cash, $100 Stock, was yesterday taken by Messrs. J. I. Cohen, Jr. & Brothers, of Baltimore, being a higher offer than any made by the New York capitalists.

[*From the Albany Argus of yesterday.*]

Chenango Canal Loan.—Yesterday was the day for opening the proposals for the Chenango Canal Loan of $500,000 by the Commissioners of Canal Fund. The following offers were made for this loan, being 5 per cent. stock reimbursable after 1845, viz:

Thos. W. Olcott, Rich'd Yates, and Watts Sherman, a premium of 11 1-10 per cent.; the money loaned to be deposited in the several banks for which the bid was made, and the banks to pay interest at the rate of 5 per cent. per annum for the deposites.

Prime, Ward & King, 8 per. cent. premium for the whole loan.

J. J. Cohen, Jr. and Brothers, Baltimore, 12 per cent. premium for the whole loan.

Harman Hendricks, 12 per cent. for $125,000, and to pay $74,000 in 7 per cent. Erie and Champlain Canal stocks, at 24 per cent. premium, and the residue in cash.

The stock was awarded as follows, viz:—To J. J. Cohen, Jr. and Brothers, $400,000.

To Harman Hendricks, $100,000.

The premium on the whole loan amounts to the sum of $60,000.

Arrival of the Ealmouth.—We learn from the Norfolk Beacon that the United States sloop of war Falmouth, Charles S. McCauley, Esq. commander, arrived there on Saturday, 1st August, in 17 days from Pensacola; officers and crew all well. The St. Louis, Capt. Rosseau, and the Grampus were both at Pensacola when the Falmouth sailed. The Vandalia was absent on a cruise to the Gulf of Mexico; and was expected to return to Pensacola about the 1st of August. We learn that the town and squadron enjoyed excellent health. It is expected that the Grampus will return to the North during the summer, as she is much in need of repairs. The other vessels will remain on the station.

The following is a list of officers attached to the Falmouth.

Charles S. McCauley, Esq. Commander.
Lieuts.–Wm. Pierson, Arch'd. B. Fairfax, Henry K. Thatcher, Charles G. Hunter.
Sailing Master—Wm. Lambert.
Fleet Surgeon—Leonard Osborne.
Assistant do—W. A. Spotswood.
Purser—Nathanisl Wilson.
Passed Midshipmen—Charles F. McIntosh.
Midshipmen—D. Ross Crawford, A. S. Whither, J. W. Bracket, W. H. Carnes, G. W. Grant, N. Collins, S. C. Barney, E. J. Donnelson.
Captain's Clerk—Leroy H. Anderson.
Boatswain—Samuel Stanley.
Gunner—Thos, Robinson.
Sail Maker—Samuel V. Hawkins.
Acting Master's Mate—Benj. Bunker.
Purser's Steward—S. D. Moulton.
Passengers.—Major Byrd C. Willis, Navy Agent at Pensacola; and Passed Midshipman Geo. W. McCreery.

The Boston Daily Advertiser of Monday says, "the pleasure yacht Wave, Captain John C. Stevens (owner), arrived here on Saturday morning, from New York, for the purpose, so said, of engaging in a sailing match with the Sylph, of this place; but meeting with the S. off Nantucket Shoal on Thursday last, the trial took place on the spot, and resulted (as we are informed on board the Wave), in handsomely beating the Sylph in every position tried.

The Providence Journal also contains the following notice of "the Wave."—"A rare specimen of naval architecture made its appearance at Newport on Wednesday last. It was of about 93 tons burthen, schooner rigged, finished in a novel and beautiful style, and excited the admiration of all beholders; and is ready at all times to try its speed with any vessel in this country. A party of gentlemen, desirous of viewing the *Wave*, were received in a most cordial and gentlemanly manner by its owner and commander, John C. Stevens, Esq., of New York, and its officers, Messrs. Sands, Stevens, and Thompson. It is expected the *Wave* will shortly visit this place, in company with the revenue cutter Vigilant; when those to whom we are incompetent to give any adequate description, may have an opportunity to see and admire its striking features."

Cow Catching.—According to the Boston Journal, a circumstance, very near an accident, occurred to one of the railroad cars on Thursday evening, on its way from Providence, with the passengers of the Lexington. When in the farther part of Mansfield, they run into a drove of cattle, and soon found that their cow catcher which they have wisely placed on their night engine, had gathered together two of the herd, and was proceeding with them at a rapid rate, without any damage to the car or the knowledge of the passengers—till the engineer saw his new freight, and stopped to discharge.—[Gazette.]

MONUMENT BY THE BAR TO THE CHIEF JUSTICE. The following proceedings of the Philadelphia Bar, with whom the happy idea originated of raising a suitable Monument to *John Marshall*, set forth the mode in which it is proposed to carry out the plan. They will be of interest to, and command the concurrence, of the New York Bar, which so promptly associated itself in the noble enterprise.

MARSHALL MONUMENT.—At a meeting of the committee appointed by the Bar of Philadelphia, on the 7th July, 1835, held at the Law Library Room, on the 31st of the same month, P. S. Duponceau, Esq., was appointed Chairman, and James C. Biddle, Esq. Secretary.

The following Resolutions were adopted:

Resolved, That a sub-committee be appointed to consist of five members, whose duty it shall be:

1. To proceed immediately to collect subscriptions for the Monument, from the bar of Philadelphia;

2. To cause subscriptions to be collected from the Bar of the other parts of Pennsylvania;

3. To promote subscriptions by the members of the Bar throughout the United States;

4. To correspond with such committees, and individual members of the profession throughout the United States as may be authorized or disposed to co-operate with us in the proposed object.

5. To confer on the part of the Bar of Philadelphia, with such committees or individuals as may be appointed or authorized to confer with them on the subject of their appointment or matters connected therewith.

6. To adopt such other measures as may seem to them expedient and proper for furthering the contemplated purpose.

Resolved, That desiring to make the subscription as extensive as possible, and to avoid inconvenience to those who may be willing to unite with them, it is the wish of the committee that individual subscriptions should be moderate, and that the required amount may be made up by the number of contributors, rather than by the magnitude of particular donations, so that the Monument may truly be the work of the Bar of the United States, and an enduring evidence of their veneration for the memory of the illustrious deceased.

Resolved, That it is the desire of the Bar of Philadelphia, that all who may contribute, shall have a voice in selecting the plan to be adopted, and at a suitable time arrangements will be made to give them an opportunity, by their delegates, to take a part in the selection.

Resolved, That before a plan can be adopted, it is necessary to know the extent of the means that will be furnished, and therefore, it is earnestly requested that subscriptions may be collected and forwarded with the utmost possible despatch.

Resolved, That Samuel Jaudon, Esq., Cashier of the Bank of the United States, be the Treasurer of the Marshall Monument Fund, to whom all monies collected, are to be forwarded.

Resolved, That we sincerely hope that our brethren throughout the United States, will immediately and actively exert themselves, within their respective spheres, to collect and forward subscriptions, in such manner as may seem to them best.

Resolved, That the sub-committee be instructed to receive no subscription from any member of the Bar of Philadelphia, exceeding ten dollars, and to inform the members of the Bar throughout the United States, that this regulation has been adopted here.

Resolved, That the editors of the newspapers throughout the United States, be requested to publish these proceedings.

The following gentlemen were appointed the sub-committee under the first resolution:

Mr. Duponceau, Mr. Binney,
Mr. Sergeant, Mr. Chauncey,
Mr. J. R. Ingersoll.
P. S. DUPONCEAU, Chairman.
J. C. BIDDLE, Secretary.

DANGEROUS BAGGAGE.—Our readers will probably bear in mind a fire which took place some time since on the Camden and Amboy Railroad, by which a good deal of baggage was injured. The directors then expressed an opinion that the fire was caused by the ignition of Lucifer matches, a large quantity of which was found among the contents of the baggage car. The following, from the Easton (Pa.) Argus, will show that the suspicions were not groundless:—[Sun.]

"*Fire in the stage!*—On Saturday last, Mr. H. Hummaun, received from Philadelphia by the stage a box containing books and stationary, and among the rest a box of Lucifer matches. It seems that the friction occasioned by the motion of the stage caused the Lucifers to ignite, but fortunately for the want of air the fire was smothered. The whole contents of the box smelt strongly of burnt matches though the damage was inconsiderable."

TEXAS VS. MEXICO.

[*From the New Orleans Bulletin of July* 18.]

TEXAS.—Captain Moore, of the schr. Shenandoah, in a short run from Brazoria, reports that the Texonians had seized upon the fort at Anahuac, garrisoned by one hundred men, whom they captured and sent to San Felipe. A portion of the people thought that this step was pushing matters to extremities, and as one uncalled for, but all were determined to maintain their just rights should they be assailed by the Mexican powers.

Schr. Shenandoah sailed from Brazoria on the 10th, and the Brassos Bar 11th inst., left no vessels—reports that the people of Anahuac on the 7th inst. rose upon the Mexican soldiers quartered in that place, and captured their fort, which was no sooner done, than they offered to desert Santa Anna and join the Texonians, but instead of receiving them the people drove them far into the prairies towards Nacogdoches—and also reports that the people on the Brassos river were organizing a military force to proceed immediately to the defence of the town of San Antonio—great excitement prevailed among all classes of the inhabitants.

RUMORED DISTURBANCES IN COLOMBIA.—The following paragraph is from the books of the Philadelphia Exchange. As there are no papers from that city to day, we have nothing in explanation, confirmation, or contradiction of it.

Extract of a letter from the American Consul dated

ST. JOHNS, P. R. July 17, 1835.

The disturbances on the Main continue, and have been of such a nature in Colombia, that the President and Vice President have left, and arrived at St. Thomas on Wednesday last—We have not learned the particulars.

PICTURE OF AFRICA.—It possesses not the charm of refined and intellectual society; its European inhabitants, with very few exceptions, professedly try to get money as fast as they can, that they may return to England; and yet when they do return, there is no place so dear to them as the land they have left. I could cite various examples of this, but two or three only will serve as a type for the rest. During our second voyage to Africa, we met with our dear friend Mr. M—l—n; he was dying from consumption, and suffering dreadfully, and yet his pain, his approaching dissolution, were alike forgotten when Mr. Bowdich and myself would sit by his side and talk of the scenes and adventures we had known together in Fantee. The delicious fruits of Madeira were not to be compared with ours on the coast; the storms were not so grand; the hottest season there was much more intolerable; and the Portuguese servants not half so good as his own man, Black Jack, who used to beg him "not to take vex, but he wanted a bottle of wine particular:" the invalid's eyes would brighten, the color rush into his pale lips and cheeks, and a momentary strength would be imparted by these, and a multitude of happy recollections. Certainly no one ever suffered more in Africa than the intrepid Mr. Hutchinson, who died only a few months back at Leith, a victim to a northern, instead of a tropical climate; and yet he never was so animated or enthusiastic, in short so happy, as when recurring to the scenes of his past life. And so it is with myself. I have visited other lands, nay, lived in them, and my path has been broken and rugged. Still more thorny was it in Africa, and yet my thoughts and feelings incessantly recur with indescribable affection to those wild scenes; every minute circumstance vividly rushes before me as if it were the occurrence of yesterday, and my very dreams are of that magnificent land, where nature has lavished her treasures with such unlimited profusion. Perhaps these treasures form one of the secret links of that chain which binds us all to her; and her lofty primitive mountains, her mighty rivers, her impenetrable forests, her deep blue sky where the sun and the moon sail in cloudless majesty, and banish all idea of darkness; the furious grandeur of her tempest; the strange and uncontrolled forms with which her wastes are peopled; her gay, laughing flowers; her juicy and exquisite fruits, which require no toil to bring to perfection; her children, rude and disgusting as many of them are, even form objects of compassionate interest, from the very curse under which they seem to labor; and all these, perhaps, create feelings in residents which, to those who have always dwelt in civilized nations, are inexplicable. There may be yet another cause, which is the constant excitement afforded by a life which often presents danger, and constantly requires contrivances for comfort and enjoyment.—[Mrs. Lee's Stories of Strange Lands.]

FEROCITY AND FANATICISM.—The less the designs of the Ismailites prospered by the sword the more successful and persevering were they with the dagger: and, however dangerous to the order the times might be, they were not the less so its most powerful adversaries. A long series of great and celebrated men, who during the grand mastership of Kiabusurgomid, fell by the poinards of his Fedavi, signalized the bloody annals of his reign; and, as formerly, according to the fashion of oriental historians, there follows, at the end of each prince's reign, a catalogue of great statesmen, generals, and literati, who have either adorned by their lives or troubled it with their death; so, in the annals of the Assassins, is found the chronological enumeration of celebrated men of all nations who have fallen the victims of the Ismailites, to the joy of their murderers and the sorrow of the world.—The first under the grand-mastership of Kiabusurgomid was Cassim-ed-dewlet Aksonker Bourshi, the brave Prince of Mossul, feared alike by the Crusaders and the Assassins, as one of their deadliest enemies. Having fought his last battle with the former, near Maara Mesrin, he was, on the first Sunday after his return, attacked by eight Assassins, disguised as dervishes, as he was in the act of seating himself on his throne in the mosque at Mossul: protected by a coat of mail and his natural bravery, he defended himself against the wretches, three of whom he stretched at his feet; but before his retinue could hasten to his assistance, he received a mortal wound, from the effects of which he expired the same day. The remaining Assassins were sacrificed to the vengeance of the populace, with the exception of one young man from the village of Katernash, in the mountains near Eras, whose mother, on hearing of Aksonker's murder, dressed and adorned herself for joy at the successful issue of the attempt, in which her son had devoted his life; but, on his returning alone, she cut off her hair and blackened her hair, with the deepest sorrow, that he had not shared the murderers' honorable death. To such lengths did the Assassins carry their point of honor, and what may be termed their Spartanism. Moineddin, the vizier of Sultan Sandjar, was also murdered by an Assassin, bribed by his enemy, Derkesina, the vizier of Mohammed, and a friend of the Ismaelites. In order the better to attain his object, the ruffian entered his service as a groom. One day, as the vizier went into his stable to inspect his horses, the false groom appeared before him without clothes, in order to avoid all suspicion of carrying concealed weapons, although he had hid his dagger in the mane of the horse, whose bridle he was holding. The horse reared, and, under pretence of quieting him with caresses, he snatched his poinard and stabbed the vizier. If Bourshi, Prince of Mossul, stood on the list of the victims of the Ismaelites, solely because he was a rival to their power and an obstacle to their greatness, we shall not be surprised at finding the name of Busi, the Prince of Damascus, by whose orders the vizier Masdeghani and six thousand Assassins had been massacred. The slightest pretence was sufficient to cause the blood of princes to flow beneath their stilettos; how much more when their own called, as in this latter case, for revenge. To escape was beyond the power of prudence, as they watched for years, for time, place, and opportunity. Busi, the son of Togtegin, was, in the second year after the massacre, attacked by his avengers, and received two wounds, one of which healed immediately; the other was, however, mortal the following year.—[Von Hammer's History of the Assassins.]

Musings—*By Flaccus in the Country.*

ELEGY.

MARSHALL!—Thy name is written on the rock,
Where Freedom raised her standard in despair;
But braved triumphantly the tyrant's shock,
And drove the baffled lion to his lair.

For thee thy country mourns—departed worth!
Whose hand upheld her from her childhood's years;
For thee! her guide, her guardian from her birth
The grateful orphan sheds her gen'rous tears.

Thine, is the double glory, to *sustain*
The prize of Liberty, as well as *win*;
With open foes to triumph on the plain,
And thwart the plots of treach'rous friends within—

Yet some there are, would boldly blast thy name;
(The base would e'er revile the noble dead)
Or praise in whispers what they should proclaim—
Peace! their curse, it cannot reach thy head.

Dogs bay the moon, but heaven's majestic queen
Rolls on, regardless of the yelping crew—
So shall thy fame shine on it's course serene,
Nor heed the hounds of malice that pursue.

Remnant revered of Freedom's holy band!
Who linger'd long, yet bade, too soon, adieu—
Ah! whither now shall turn thy widowed land?—
In danger's hour, whose hand shall guide her through

Feeble, and few, thy hoary mates appear,
Who drank pure Freedom from her fountain-head;
What now is left, to keep the current clear?
What, save the bright example of the dead?—

In storms of war, in every civil strife,
When license threaten's Freedom with its blight;
We'll ope the spotless pages of thy life,
And read the lesson that shall lead us right—

No. 7. W.

CIRCULAR. To ENGINEERS and Superintendants of Railroads and Canals.—I am preparing to issue a *new* edition of my RAILROAD AND CANAL MAP; and being desirous to correct the errors of the first edition, take the liberty to request the ENGINEER, or SUPERINTENDENT, of every Railroad and Canal in the UNITED STATES, to furnish me at his earliest convenience with a *full* and *precise* account of the condition of the railroad under his direction or charge. He is requested to state the length of the road, the number of miles completed, the elevation it surmounts, the radius of its curves, the style of its construction, its average cost per mile, the number, if any, of inclined planes, with stationary engines—*in short, every thing which may be of interest* to engineers, or others who may be connected with the subject of Railroads and Canals.

To such as comply with the above request, and furnish the desired information previous to the *first of August* next, a copy of the new edition of the Railroad and Canal Map, will be sent, by mail or otherwise, as may be directed, as soon as completed.

D. K. MINOR.

New-York, June 27, 1835.

RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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*** All letters must be postage paid. Eleven numbers sent to one address for $5,—and TWENTY THREE for $10. D. K. M.

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These works may all, or either of them, be had of S. Bridenburgh, 96 North Pearl street, Albany; D. Hale, 134 Washington street, Boston; Fessenden, Philadelphia; or of the Proprietor and Publisher,

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NOTICE

IS hereby given, that an Assessment of Ten Dollars on each share of the Capital Stock of the Boston, Norwich and New London Railroad Company, has been laid payable on the 18th day of August, 1835, at the Office of the Company, No. 52 Wall street, New York, or at the Quinebaug Bank, Norwich.

THOMAS ROBINSON, Treasurer.
Norwich. July 11th, 1835. jy.16. tA13

NOTICE TO CONTRACTORS.

Sealed Proposals will be received at the Hudson and Berkshire Railroad Company's Office, in the city of Hudson, until the 5th day of September next, for excavating and embanking 14 miles of their Road from Arnold's shop, near Groat's, at Chatham Four Corners, to the state line, and also for constructing 8 Bridges, from 60 to 70 feet each, between the abutments. Plans of the masonry and superstructure of the bridges will be exhibited at the Railroad Office. Contractors will be required to furnish all the materials for bridges; and the masonry to be completed by the 1st of December next. The road to be graded for a double track, 24 feet wide. A part of the road will be heavy rock and gravel excavation. Profiles of this part of the route will be exhibited at the Railroad Office, in Hudson, and also at the Office of the Engineer, at Chatham Four Corners. The road will be divided into sections of one half and one mile each in length, and prepared for examination by the 10th of August.

Proposals will also be received for furnishing 500,000 feet, B. M., of White Oak Rails, 6 by 7 inches square, and 16 feet long. Also, 15,000 Oak or Chesnut Ties, 6 by 7 inches square, 8 feet long, or, if round, not less than 8 inches in diameter, at small end. Also, 500,000 feet of Chesnut, Pine, or Hemlock Sills, 4 by 10 inches, 12, 16, or 20 feet long.

The whole to be subject to the inspection of the Engineer, and to be delivered on the line of the road, by the 15th of April, 1836.

The remaining 18 miles of the route will be put under contract as soon as the line can be prepared.

Persons applying for contracts will be expected, unless personally known to the Engineer, to present with their proposals recommendations as to ability to perform their contracts.

☞ Any information on the subject afforded at the Engineer's Office, Chatham Four Corners.

JAMES MELLEN, President.
GEORGE RICH, Chief Engineer.
Hudson, Aug. 1, 1835. 31—5t

TO TUNNEL MINERS, DRILLERS, &c.

Wanted, immediately, 40 Tunnel Miners, (Cornish Miners will be preferred,) 80 Drillers, 50 Laborers, and two experienced Mine Blacksmiths, on the New York and Harlem Railroad, about five miles from the City. Liberal wages will be given, and cash payments made every fort night. Apply at Mr. FOWLER'S, St. John's Hall, Frankfort street, New-York.

JOHN RUTTER, Contractor.

☞ The Albany Argus, Philadelphia U. S. Gazette and Pennsylvanian, will please copy this, and send their bills to the Railroad Company, 14 Wall street, New-York. 23—tf

RAILROAD CASTINGS.

MANY & WARD, Proprietors of the Albany Eagle Air Furnace and Machine Shop, will make to order car wheels, chairs and knees, and every other description of castings required for railroads. R-1y feb14

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RAILWAY IRON.

95 tons of 1	inch by	½ inch,	*Flat Bars* in lengths o	
200 do. 1½	do.	½ do.	14 to 15 feet, counter sunk	
40 do. 1½	do.	⅝ do.	holes, ends cut at an angle	
900 do. 2	do.	⅝ do.	of 45 degrees, with spli-	
800 do. 2½	do.	⅝ do.	cing plates and nails to	
soon expected.			suit.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive Wheels

Axles of 2¼, 2⅜, 2½, 3, 3¼, 3½, and 3⅝ inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment. A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & G. W. BLUNT, 154 Water street,
J31 6t corner of Maiden lane.

SURVEYING AND ENGINEERING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely *new*, among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker,
No. 9 Dock st., Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1833.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee the following information. The whole number of Levels now in possession of the department of construction of thy make is seven The whole number of the "Improved Compass" is eight These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Sup't of Construction
of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.
ml 1y Germant. and Norrist. Railroad